AMERICAN

APRIL • 1953

Cinematographer

THE MAGAZINE OF MOTION PICTURE PHOTOGRAPHY

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In This Issue . . . **1952 ACADEMY AWARDS**

. . . plus seven other important articles

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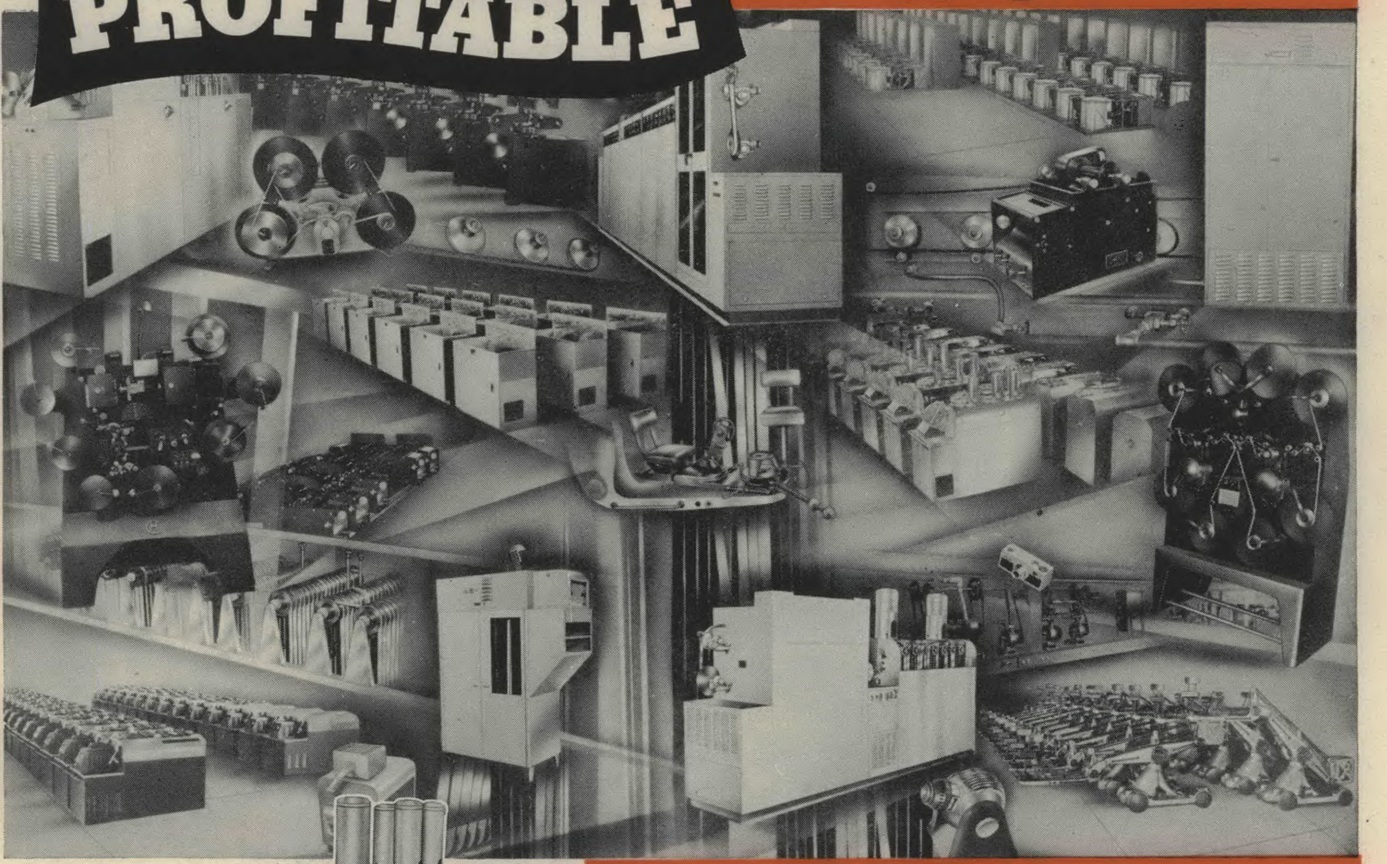

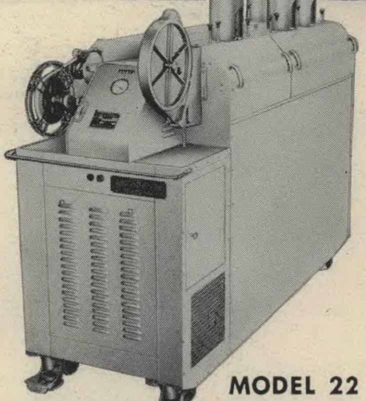

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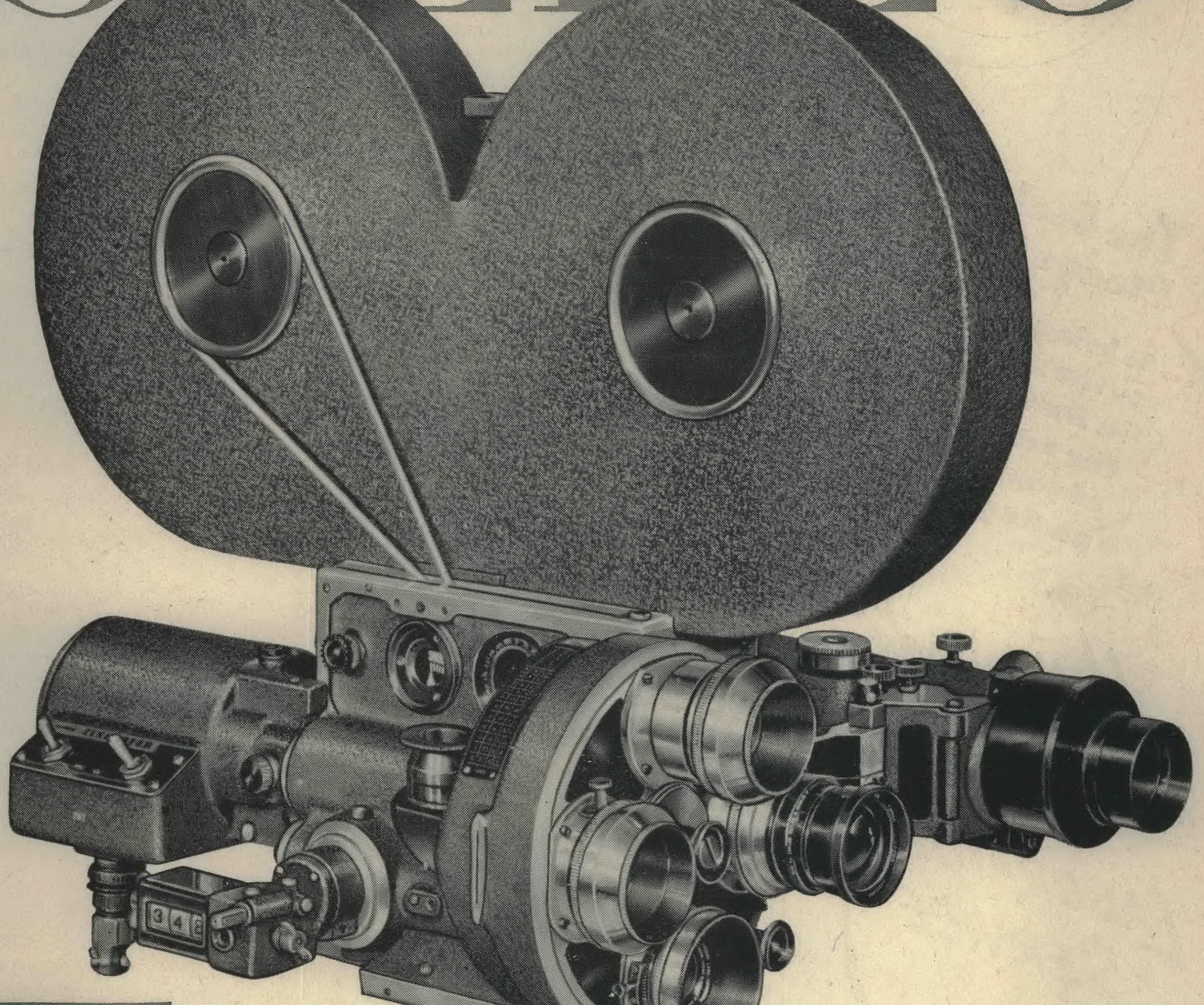

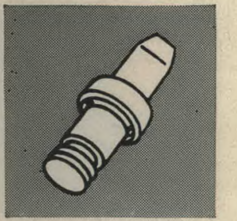

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CONTENTS

ARTICLES

FILMING "RETURN TO PARADISE" IN SAMOA—*By Hilda Black* 156
1952 ACADEMY AWARDS—*By Arthur Gavin* 158
THE FUNCTION OF BOOM SHOTS IN FEATURE FILM PRODUCTION —*By Herb A. Lightman* 161
AN ANIMATION STAND FOR TV FILM PRODUCTION —*By William R. Witherell, Jr.* 162
THE MAGNASYNC RECORDER—*By D. J. White* 165
THE NEW ANSCO COLOR FILM AND PROCESS—*By Robert A. Mitchell* . . . 166
EDGE NUMBER MACHINE FOR 16-35MM FILMS 184
IMPROVED FOCUSING TAPE—*By Maury Kains* 188

AMATEUR CINEMATOGRAPHY

HOMEMADE GADGETS THAT INSURE BETTER MOVIES—*By C. C. Chuvax* . . . 172
SET, SIGHT AND SHOOT—*By John Forbes* 175

FEATURES

HOLLYWOOD BULLETIN BOARD 150
WHAT'S NEW IN EQUIPMENT, ACCESSORIES, SERVICE 152
ROSTER OF CINEMATOGRAPHY OSCAR WINNERS, 1928 TO 1952 176
CURRENT ASSIGNMENTS OF A.S.C. MEMBERS 190

ON THE COVER

NICK MUSURACA, ASC, stands by to start his camera while director Fritz Lang rehearses a scene with Anne Baxter for Gottleib Productions' "The Blue Gardenia."

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"The Academy votes... to George Alfred Mitchell"

At the 25th annual Academy Awards Presentation, Charles Brackett, President of the Academy of Motion Picture Arts and Sciences, made this "Oscar" award in recognition of special contributions made throughout the past 25 years:

"Last night the Board of Governors drew up the following citation:

"For the design, development, and manufacture of the motion picture camera which bears his name; for the introduction of equipment which stampeded the artistic progress of films, and for his continued and dominant presence in the field of cinematography . . . the Academy votes an Honorary Award to George Alfred Mitchell."

With great pride and deep gratitude George Alfred Mitchell acknowledges —

This Honorary Academy Award made by the Academy of Motion Picture Arts and Sciences at its 25th annual presentations.

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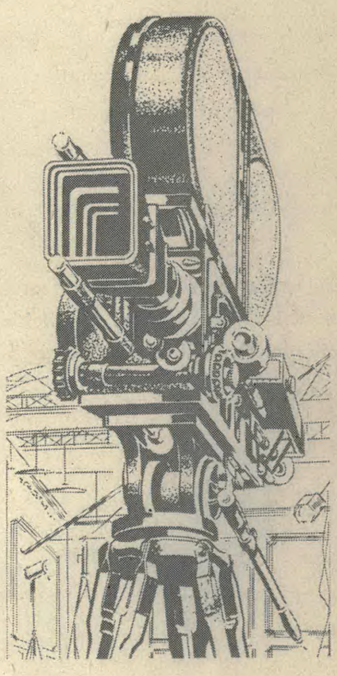

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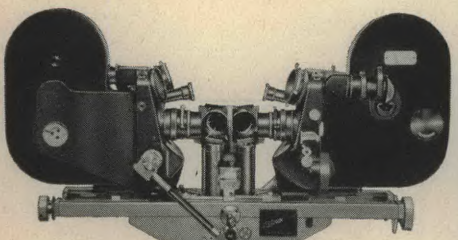

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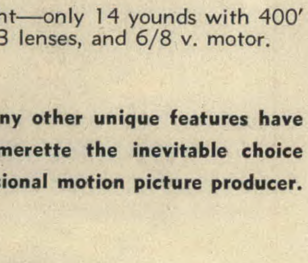

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Hollywood
Bulletin Board

READY FOR ANY 3-D SITUATION is John Boyle, ASC, who is currently directing the photography of Sol Lesser's "3-D Follies." Boyle is shown with his old-time stereo camera, a Stereo-Realist, and Stereo-Cine's 3-D camera used on the Lesser production.

JOHN BOYLE, ASC, who has been shooting the second and third episodes of Sol Lesser's "3-D Follies," using Stereo-Cine camera equipment, will direct the photography of the Marciano-Walcott world championship bout in Chicago April 10th for Theatre Network TV Corp. of New York. Boyle will have under his supervision three of Stereo-Cine's 3-D cameras, one regular Michell, and a single-system sound camera.

•

JOSEPH WALKER, ASC, whose name has been missing on production lists recently has been engaged in important optical research and development for the Radio Corporation of America. Walker, who directed the photography of such important Columbia productions as "The Jolson Story," "Born Yesterday," "Affair In Trinidad," and "The Marrying Kind," is almost as well known for his optical developments as for his cinematography. He developed a zoom lens for television cameras which later was acquired by RCA; it is widely used in major TV studios.

•

CHARLES ROSHER, ASC, returned from his island ranch in Jamaica last month, to photograph another picture at MGM —reportedly the studio's first wide-screen production.

•

HAL MOHR, ASC, served as camera consultant for the Academy Awards presentation ceremony last month.

FILMDOM'S FAMOUS FIVES, one of two national polls conducted annually by Film Daily, motion picture trade paper, names the following five directors of photography as the top cameramen for 1952: Winton Hoch, ASC, for "The Quiet Man"; George Barnes, ASC, for "The Greatest Show On Earth"; Claude Renoir, for "The River"; Floyd Crosby, ASC, for "High Noon"; and Frederick A. Young, ASC, BSC, for "Ivanho."

•

A SPECIAL SCREENING of CinemaScope was given for members of the American Society of Cinematographers March 23rd at 20th Century-Fox Western Avenue studios. Sol Halprin, ASC, studio's executive director of photography and one of the men responsible for development of the new wide screen system, chairmanned the meet. He explained the ramifications of the new system which Fox henceforth will utilize on all productions. Demonstration consisted of test footage as well as footage from current productions, including "How To Marry A Millionaire," and "The Robe," shot by Leon Shamroy, ASC, Joseph MacDonald, ASC, and Arthur Arling, ASC.

•

UNDECIDED as to which of the new methods will survive, 3-D or wide-screen, nearly all the other major studios are doing research and experiment on some form of wide screen process. Robert Burks, ASC, resportedly has been making tests with a new wide-screen lens developed by Warner Brothers, while John Arnold and his associates reportedly have a wide-screen lens which MGM will use in conjunction with its 3-D process to produce wide-screen three-dimensional films. A similar system is said to be in an advanced stage of development by Paramount Studios.

•

LEON SHAMROY, ASC, who is directing the photography of 20th Century-Fox's initial CinemaScope production, "The Robe," has authored an article on the CinemaScope process for "Films In Review," publication of the National Board of Review.

•

GIL WARRENTON, ASC, has been photographing the "Joe McDoaks" series of comedy short subjects at Warner Brothers.

END

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COLLAPSIBLE 3-WHEEL DOLLY

For motion picture and TV cameras. Sturdy cast aluminum. For standard or baby tripods. Additional baby tripod point holders to control spread of tripod legs. Adjustable spring seat. Extra wide rubber wheels. Bronze tie down clamps and other features.

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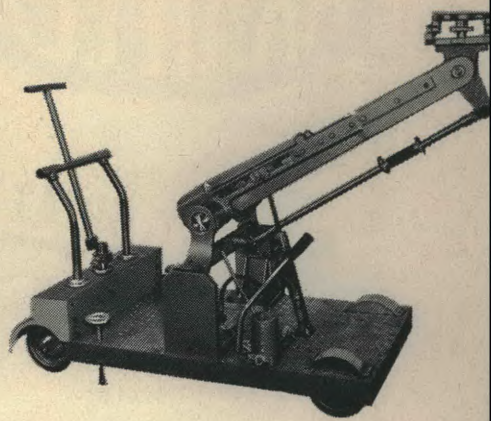

Swivel seat. Adjustable leveling head. Seat for assistant. In-line wheels for track use. Steering wheel, rigid floor locks. Hand pump or combination hand and motor pump. Easily transported in a station wagon. Fits through a 28" door.

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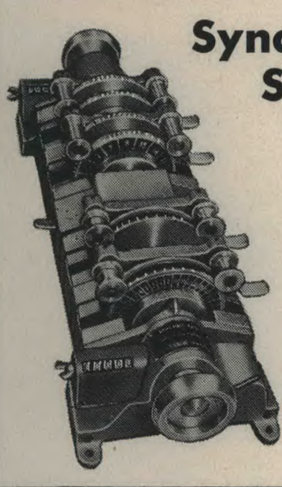

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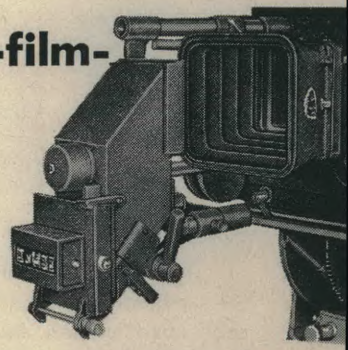

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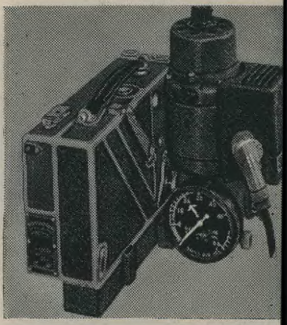

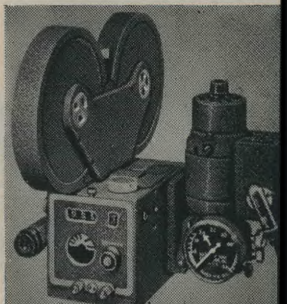

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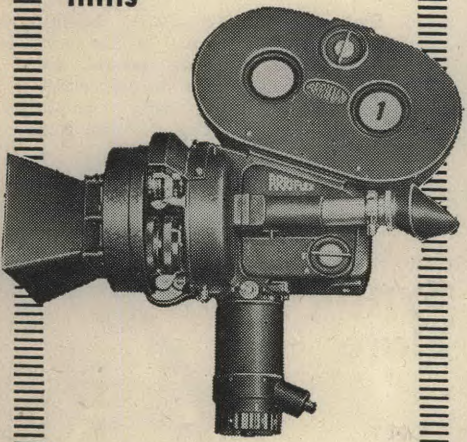

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Equipped with bright, right-side-up image finder, 6½ x magnification. Solves all parallax problems. 3 lens turret. Variable speed motor built into handle operates from lightweight battery. Tachometer registering from 0 to 50 frames per second. Compact, lightweight for either tripod or hand-held filming. Takes 200′ or 400′ magazine. Write for free folder.

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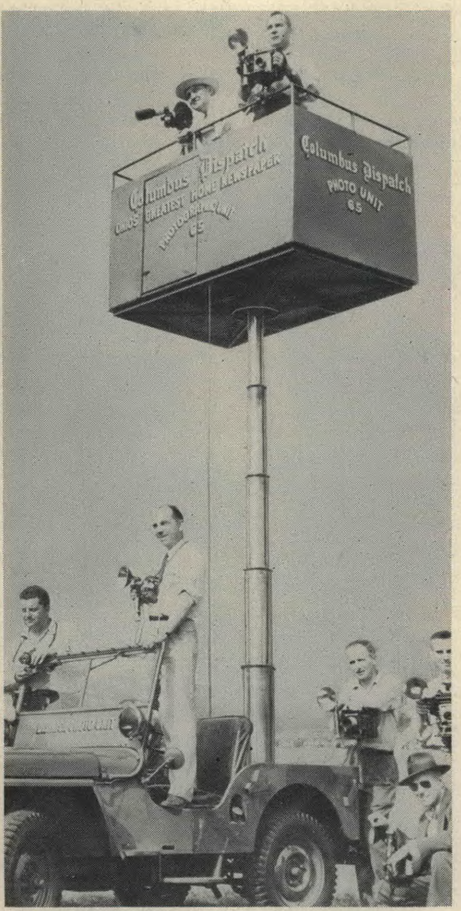
WHAT'S NEW

in equipment, accessories, service

Hydraulic Camera Elevator — A versatile new hydraulic "elevator" which can be mounted on any light truck or jeep chassis is announced by Hamlin-Klock Corp., Pasadena, Calif. One important application is in the construction of mobile camera cars for motion pictures and television. The platform is 42″x62″, and is supplied with fixed or collapsible guard rails. Its hydraulic pump (driven by power takeoff) will raise elevator with a crew and load up to 2,000 lbs. to a maximum height of 15 feet. Models having a maximum range of 30 feet are available on special order.



A safety feature provides that in case of a rupture of hydraulic lines, the lift will descend at a slow, controlled rate; in case of a power failure, a conveinent by-pass valve at the base permits lowering the lift. All regular lift controls are in the driver's compartment.

Further information and prices may be obtained by writing the manufacturer and mentioning *American Cinematographer*.

Film Processor Parts—Metal Masters, division of Wall Laboratories, 5599 University Ave., San Diego, Calif., offer a complete range of parts and equipment for the chemical and photographic industries, with special attention given to parts necessary for building film developing and processing equipment. With Metal Masters' parts it is possible for one to construct a complete film developing machine and companion equipment. A comprehensive illustrated brochure is available by writing the company and mentioning *American Cinematographer*.

Kadisch Mike Boom — Kadisch Camera and Sound Engineering Co., 500 West 52nd St., New York 19, N. Y., announces a new light-weight, portable microphone boom for location and studio work. Rigidly constructed and precision engineered, the model CEC-13 boom telescopes from 7 to 13 feet. Boom is strutted to support the heaviest mikes. External directional mike-control is at the rear and affords a full 360° noiseless turn of the instrument. The sturdy 5-foot stand has three 4-inch rubber-tired wheels, and it can be elevated to a height of 10 ft. Total weight, including belance-weight, is 40 lbs.

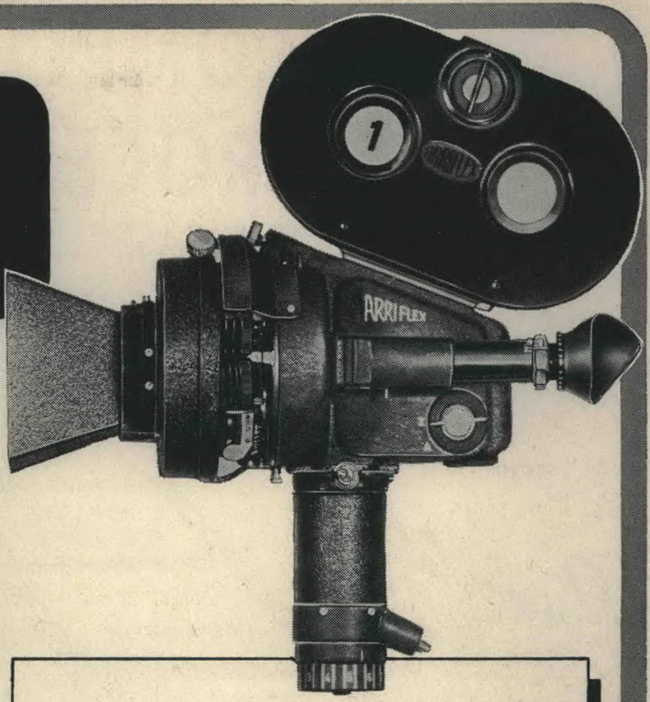
Please mention *American Cinematographer* when requesting further information.

Magnetic Heads—Stancil-Hoffman Corp., 921 No. Highland Ave., Hollywood 38, Calif., announces a new line of magnetic recording and reproducing heads for tape and film. The standard heads record a track .200 inches in width. The record-reproduce head has 1000-turn coil and gap width of approximately .0005 in. Heads for recording only are available with lower impedance, permitting easier matching for high bias frequencies. Gap width is .0007 inches, providing best tape magnetization.

(Continued on Page 154)

☆ ARRIFLEX 35

MODEL II



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- Equally adaptable for tripod or handheld filming.
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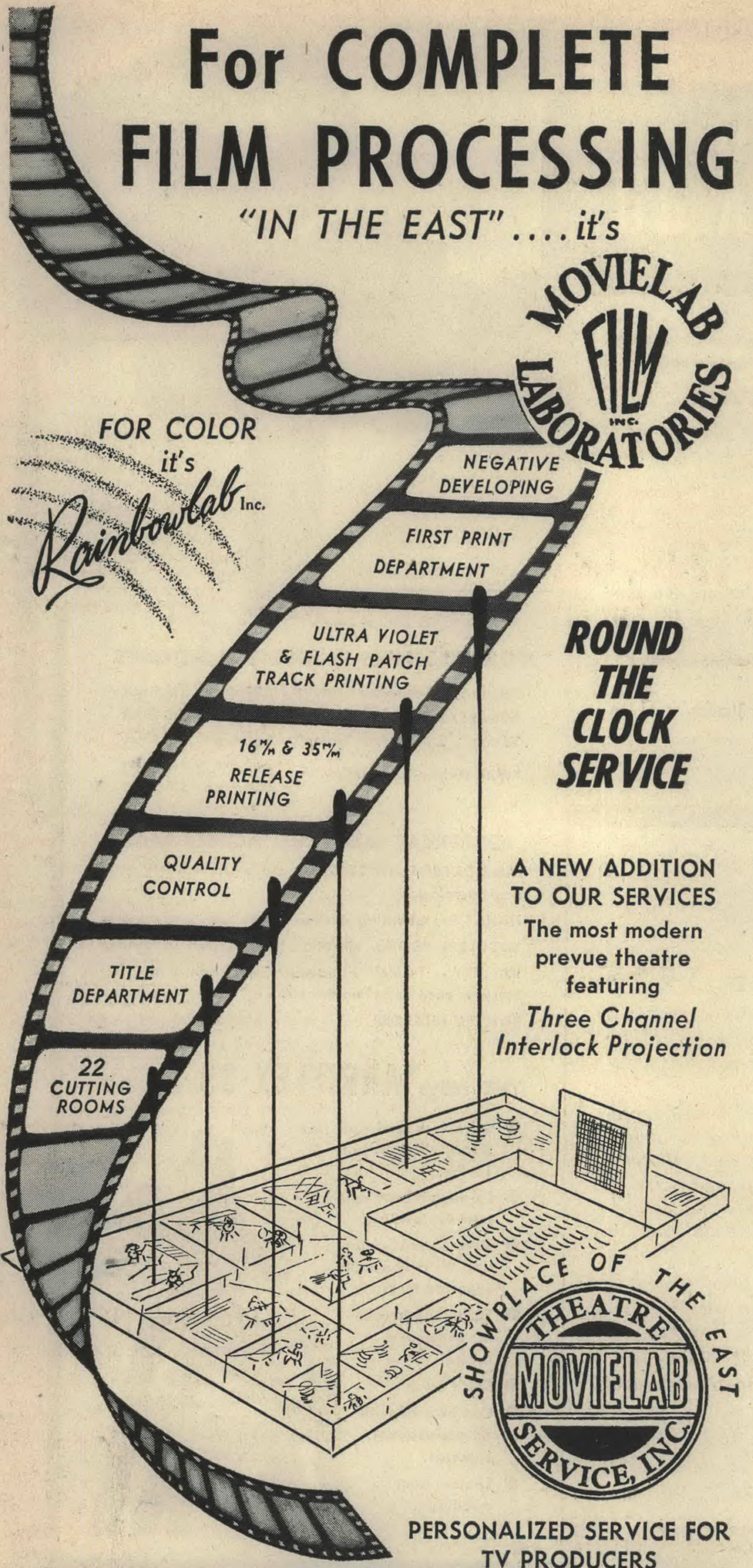

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WHAT'S NEW?

(Continued from Page 152)

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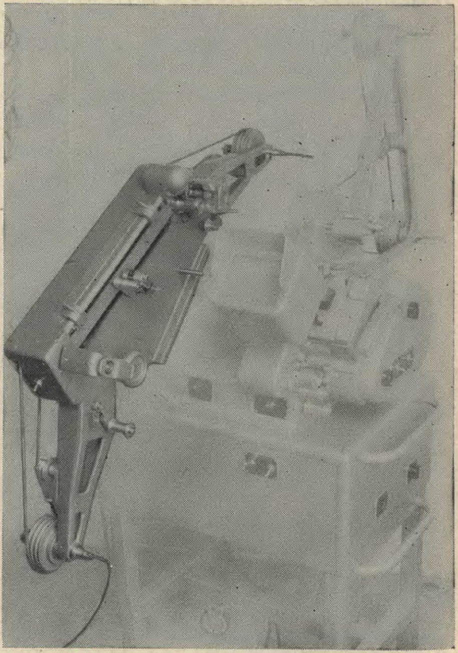
Further information may be had by writing the manufacturer and referring to *American Cinematographer* magazine.

"Searching" Sound Head — Moviola Mfg. Co., 1451 No. Gordon St., Hollywood 28, Calif., announces a new "searching" sound track reader for the selective reading of magnetic film tracks on Moviolas. New head, which can be adapted to any model Moviola, enables film editors to locate exact words in magnetic tracks or pin-point fractions of words or sounds. Full particulars and prices may be had by writing the company direct and mentioning *American Cinematographer*.



New Finder — The Raymond Company, P.O. Box 1253, Burbank, Calif., has been appointed distributors of the German-made Tewe "Motive-Finder" — a precision engineered finder for cameramen and directors. The Tewe features adjustable focal length from 25mm to 125mm; hard-coated lenses; and constant and correct proportions over the entire focal length. Finished in satin black, the Tewe is fitted with flexible chrome neck chain. Price is $75.00, postpaid in U.S. Illustrated folder may be had by writing the company and mentioning *American Cinematographer*.

Sound Transfer Service — J. A. Maurer, Inc., and Precision Film Labs., New York, now offer a service of transferring sound to and from any two types of recording mediums for producers and users of motion picture films.

NEW

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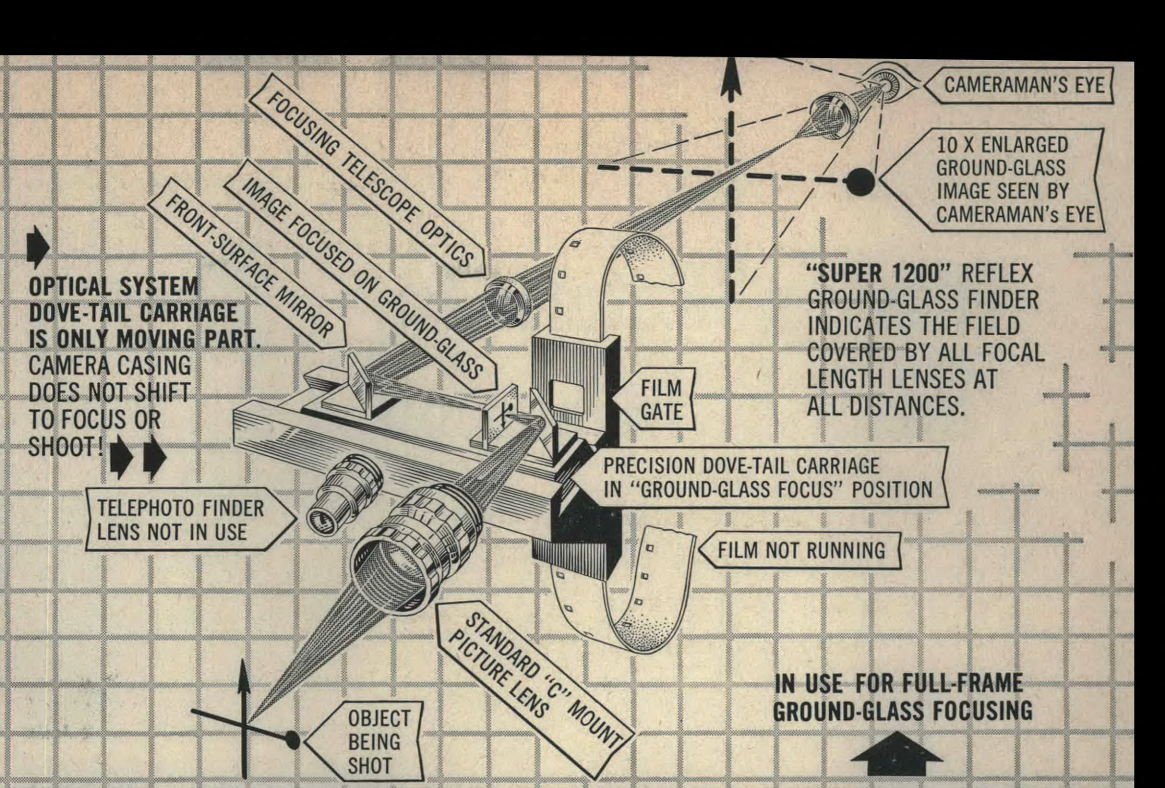
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FILM NOT RUNNING
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OBJECT BEING SHOT
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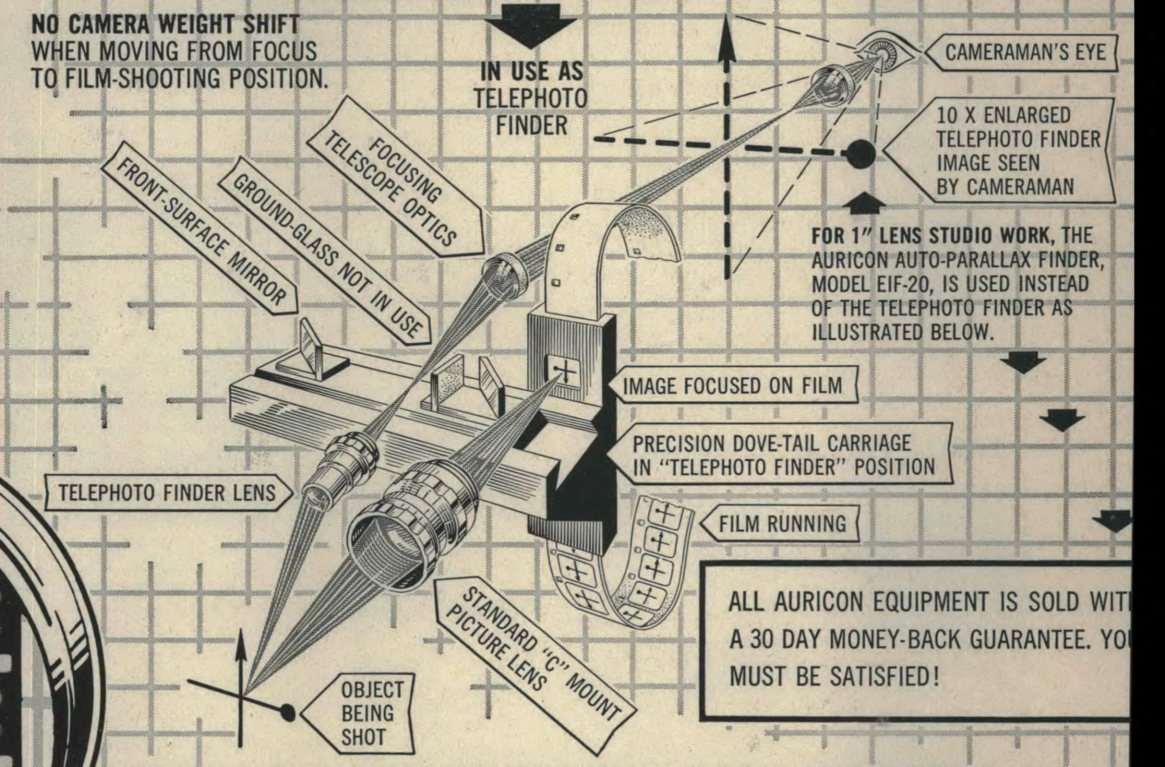
NO CAMERA WEIGHT SHIFT WHEN MOVING FROM FOCUS TO FILM-SHOOTING POSITION.
IN USE AS TELEPHOTO FINDER
CAMERAMAN'S EYE
10 X ENLARGED TELEPHOTO FINDER IMAGE SEEN BY CAMERAMAN
FOCUSING TELESCOPE OPTICS
FRONT-SURFACE MIRROR
GROUND-GLASS NOT IN USE
FOR 1" LENS STUDIO WORK, THE AURICON AUTO-PARALLAX FINDER, MODEL EIF-20, IS USED INSTEAD OF THE TELEPHOTO FINDER AS ILLUSTRATED BELOW.
IMAGE FOCUSED ON FILM
PRECISION DOVE-TAIL CARRIAGE IN "TELEPHOTO FINDER" POSITION
TELEPHOTO FINDER LENS
FILM RUNNING
STANDARD "C" MOUNT PICTURE LENS
OBJECT BEING SHOT

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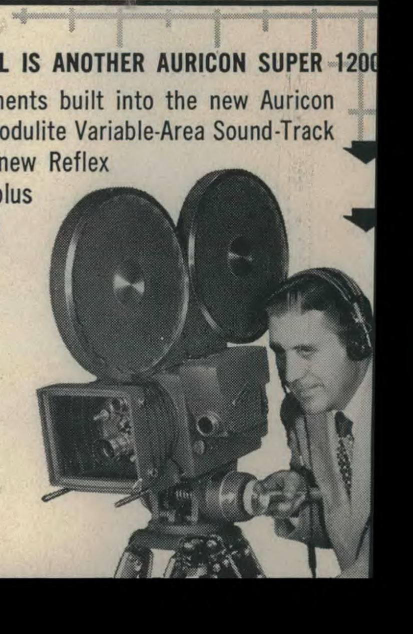

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Filming "Return To Paradise" In Samoa

It takes a remote location like Samoa to prove the mettle and resourcefulness of a Hollywood camera crew.

By HILDA BLACK

A LABOR STRIKE delayed shipment of company's Technicolor camera and equipment. The little Arriflex camera Winton Hoch brought along saved the day—enabled him to start shooting almost immediately.

THERE'S MAGIC in the word "Paradise" that conjurs up thoughts of a liesurely and care-free existence, of an eden-like spot in the South Seas far from the cares of a troubled world. So when Winton Hoch, ASC, and his camera crew embarked for Samoa several months ago to photograph Aspen Pictures' "Return To Paradise," they weren't prepared for the many surprises that awaited them.

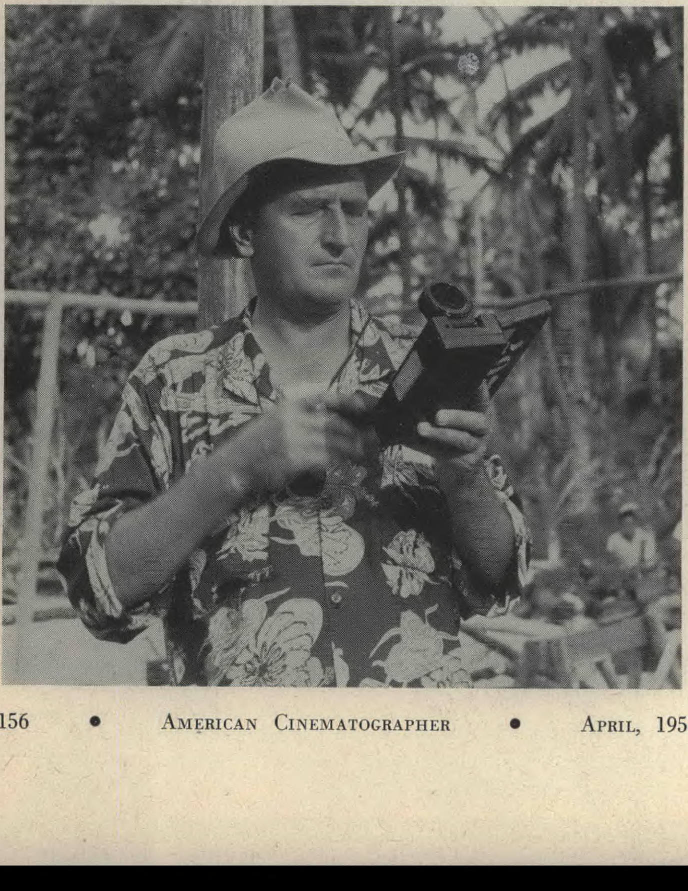
Almost as soon as the company set foot on Samoa, tribulations began which were to continue to the end of the production. Of course, almost any production filmed away from the home lot invariably poses problems, and seasoned production crews have come to anticipate them. But the problems were of a unique kind at Samoa. They began when news reached director of photography Hoch that, due to an unexpected shipping strike, the Technicolor camera and equipment which was to follow by boat would be indefinitely delayed. With everything else in readiness to start shooting, the most important thing—the camera—was missing.

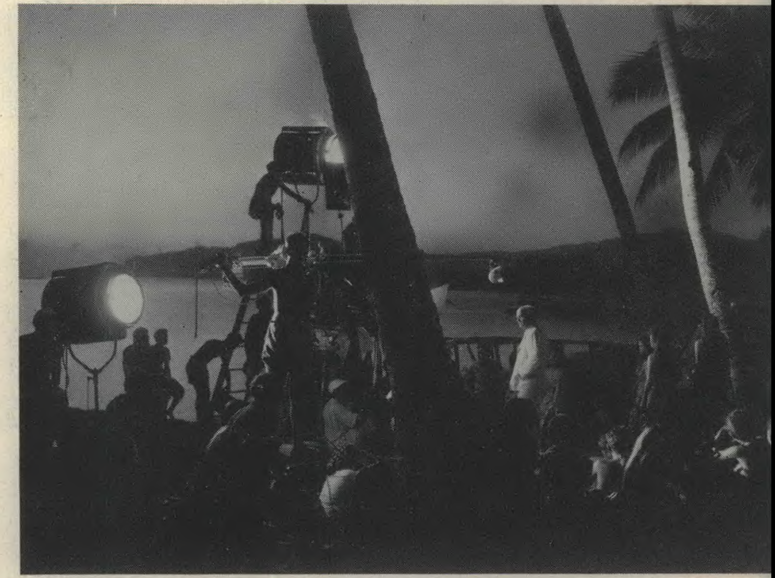
Hoch's foresight in tucking a portable Arriflex camera in his luggage saved the day. By loading this camera with Technicolor Monopack, he was able to photograph a great many scenes while waiting for the delayed Technicolor camera to arrive.

The little village of Matautu in the LeFarge area of Samoa had been chosen as the locale for the story. Having insufficient accommodations for the film company's personnel, the natives of the little island saw the movie company move into town in force each morning from neighboring Apia, and leave again each evening.

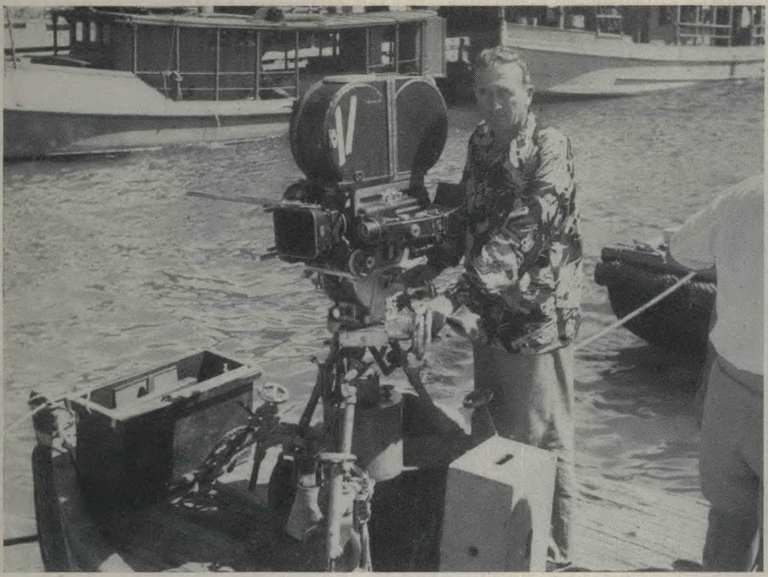
Of the cast of forty-seven, only four were brought from Hollywood. The remainder were recruited from among native Samoans. Except for Winton Hoch and his assistant, Ed Garvin, the camera operator and second assistant were re-

WINTON HOCH, ASC, who directed the color photography of Aspen Pictures' "Return To Paradise" in Samoa, takes a light reading with a Technicolor meter. Hoch, a two-time Academy Award winner, has been nominated for an award again this year.



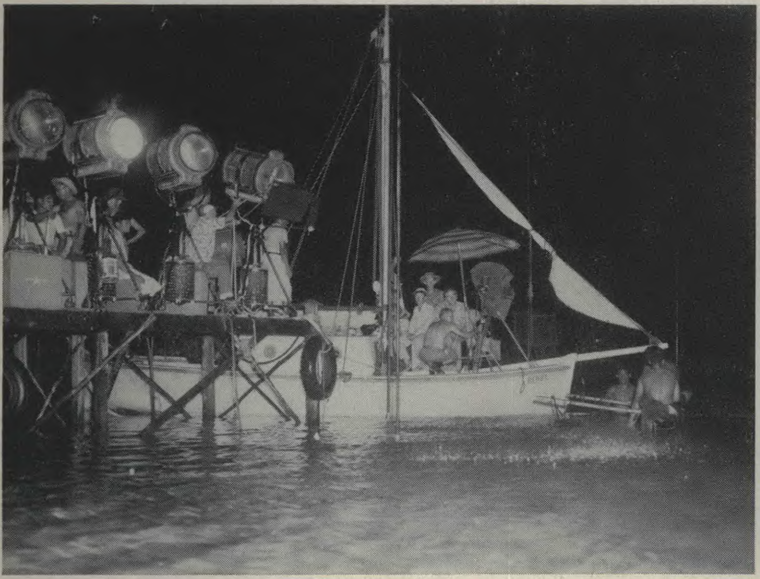


HERE Hoch used carbon arc lamps to supply illumination for a shot made at sunset on a Samoan beach. On the screen the blend of tropical sunlight with artificial light produces a breathtaking pictorial result.

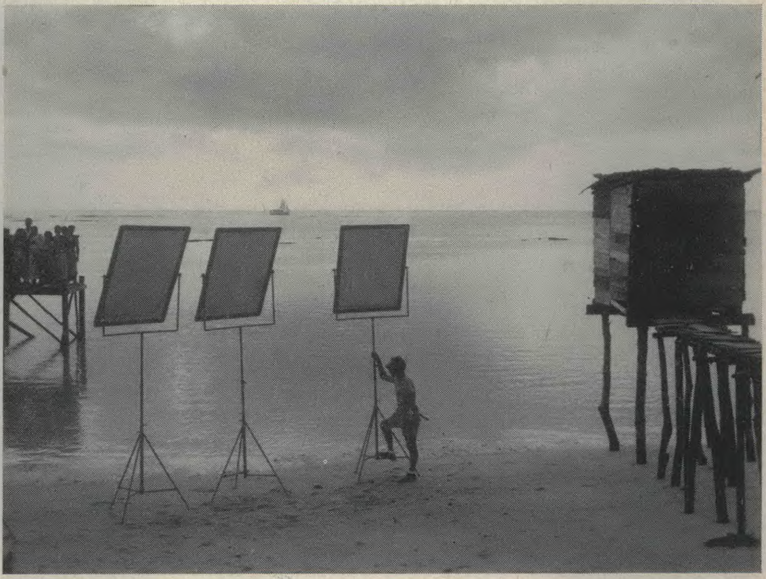


CINEMATOGRAPHER Winton Hoch lines up Technicolor camera for a shot from deck of small launch, which served as an efficient "aqua-dolly" whenever there were shots to be made at sea or in the lagoons.

SO DENSE was the foliage that booster lights were a "must" for almost every shot made on the island. In foreground group of natives watch "Hollywood at work" while the camera crew prepares to shoot a scene in the background.



IT RAINS a lot in Samoa but it couldn't be photographed so it looked like rain; so the company rigged up pipes and pumped sea water through them to produce artificial rain for a sequence of night shots.



REFLECTORS augmented booster lights in providing extra illumination for many scenes. Trouble was, careless natives often dropped them in the ocean with disasterous results.

cruited from Australia. In all, the company included 22 Australian technicians; because these men follow studio methods different from those of Hollywood, there was occasional delay in re-training them to the company's methods.

One of the first problems that had to be met, as Hoch started shooting with the Arriflex, was that of providing reflectors. The studio reflectors were tied up at the strike-bound port along with the camera and lighting equipment.

Lee Hanks, the head grip found a solution to the problem when he chanced to make a purchase at the local general store. Here he observed a number of large crates of cookies —"tea biscuits" they're called in Samoa—wrapped in tropical packing of heavy foil. Hanks induced the store keeper to part with the foil on the crates, at the risk of spoilage of the "biscuits," and from this he provided the much needed reflectors. The sheets of foil were smoothed and tacked to panels of plywood, which served the purpose quite well.

The merchants of Apia, happy over the prosperity the Hollywood visitors had brought to their tiny village, were ever eager to be helpful. A local butcher solved the company's problem of storing its supply of color film and safeguarding it against the rigors of the tropics. He simply piled the cans of film in his refrigerator along with the sides of beef, and mutton.

The prevailing high humidity, incidentally, was an ever-vexing problem for the camera crew. Said Hoch: "We had to keep a maintenance crew busy all day long polishing and oiling equipment in order to keep it in workable condition." Where mildew was a serious threat to precision parts, such as lenses, these were stored in an improvised "oven" which employed mild heat to eliminate the effects of humidity and moisture.

Head grip Hanks was not without his worries, too. Earlier, he had prepared dolly tracks from lengths of native hardwood; but after they were completed, they were found to be

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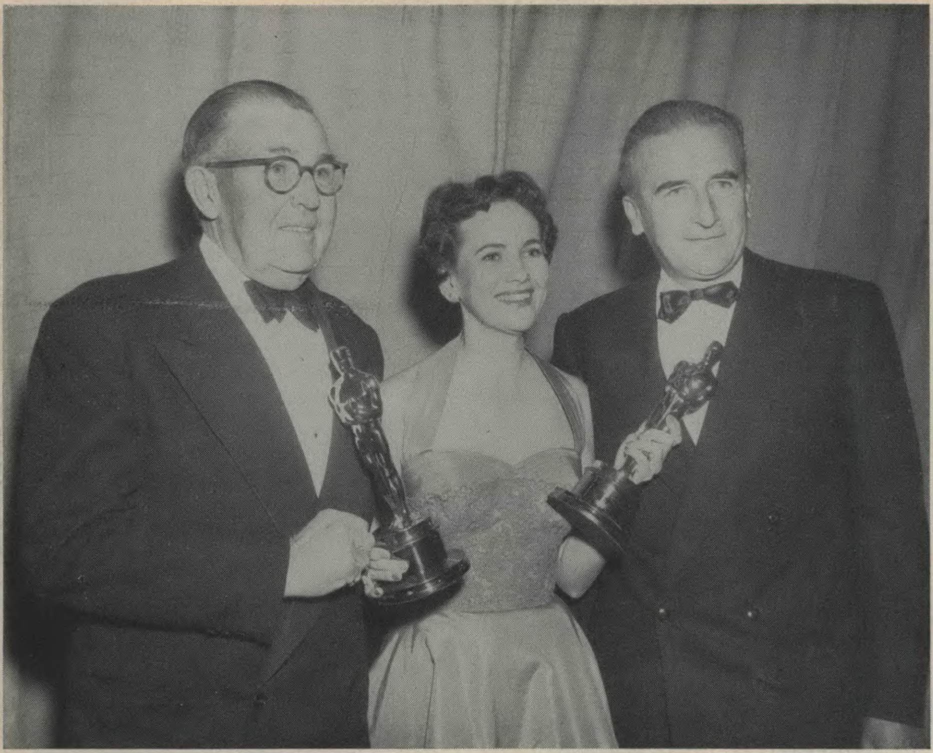


ARCHIE STOUT, ASC, (left) and Winton Hoch, ASC, received dual Oscar awards for best achievement in color cinematography for "The Quiet Man." Actress Teresa Wright made the presentation for the Academy of Motion Picture Arts and Sciences last month in Hollywood.

1952 ACADEMY AWARDS

"The Quiet Man" and "The Bad and the Beautiful" voted best photographed pictures of the year.

By ARTHUR GAVIN

WHEN A.S.C. MEMBERS Winton Hoch, Robert Surtees and Archie Stout won Academy Awards for achievement in cinematography last month, Hoch's collection of Oscars was increased to three, Surtees' to two, and Archie Stout became an Oscar winner for the first time. The three awards bring the total number of Oscars won by A.S.C. members to 44. The annual awards presentation ceremony was held at the Pantages theatre in Hollywood the evening of March 19.

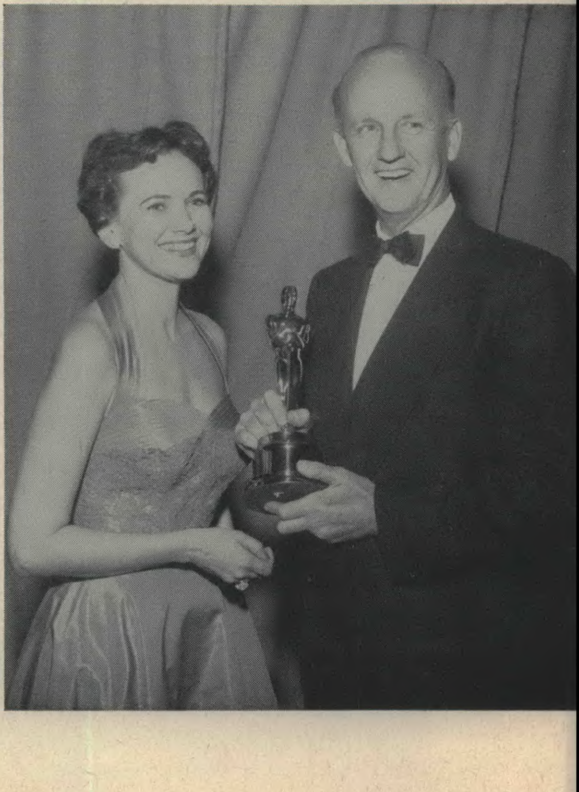
Presented the Academy's coveted award for achievement in black-and-white cinematography was Robert Surtees, ASC, who directed the camera work on Metro-Goldwyn-Mayer's "The Bad and the Beautiful." Winton Hoch and Archie Stout were awarded Oscars for achievement in color cinematography. The two directors of photography shared honors for the fine Technicolor lensing of Argosy Pictures' "The Quiet Man." Stout directed the second unit photography of the production. For him, winning an Oscar was the culmination of a long-sought career goal. "This is something for which I have worked for 25 years," he said following the presentation.

For Winton Hoch, his award this year marks his third for photographic achievement. He received his first Oscar in 1949 for co-photography of "Joan of Arc," an assignment he shared with the late Joseph Valentine, ASC, and William V. Skall, ASC. The following year he won his second Academy Award for the Technicolor photography of Argosy Pictures' "She Wore A Yellow Ribbon." By winning his third award this year, he takes his place along with Leon Shamroy, ASC, and Arthur Miller, ASC, as one of the three directors of photography to have won three Academy Awards for photography. Incidentally, Hoch also was presented the annual Look Award in February for the photography of "The Quiet Man."

Robert Surtees, holder of several awards for cinematographic achievement, received his first Oscar in 1951 for the Technicolor photography of Metro-Goldwyn-Mayer's "King Solomon's Mines." Besides his two Oscars, Surtees also has won numerous other awards. Prior to receiving an Oscar for "King Solomon's Mines" in 1951, he won the A.S.C. Picture of The Month Award, the Look Award, and the Golden Globe award for the same picture. In 1952 he received his second Golden Globe Award for the photography of MGM's Technicolor production "Quo Vadis," an assignment shared with William Skall, ASC, who won a like award.

Stout, incidentally, becomes the 33rd A.S.C. member to win an Oscar for photography. As a result, his photograph will be hung alongside those of 32 Oscar-winning contemporaries on A.S.C.'s "Wall of Fame" in the Society's Hollywood clubhouse.

"The Bad and the Beautiful," the motion picture that won the 1952 Academy Award for black-and-white cinematography, is a film that combines the art and science of the camera to



FOR "The Bad and the Beautiful," voted best photographed black-and-white production for 1952, Robert Surtees, ASC, was presented an Oscar by Teresa Wright.

TECHNICAL and Scientific Awards for achievements relating to cinematography were bestowed upon Dr. Herbert Kalmus, (L) president of Technicolor, for company's new incandescent color system; to George Mitchell, ASC, (center) for development of the Mitchell camera; and to Karl Freund, ASC, (R) for creation by Photo Research Corp. of the Spectra Color Temperature Meter.

very best advantage. Essentially a dramatic story, the film was handsomely mounted and featured striking interiors, dramatic action in exterior scenes, and a wealth of stunning feminine wardrobe, not to mention, of course, the highly photogenic cast itself. The story, an enthralling, powerful drama of Hollywood, abounds with tense, forceful situations which depended a great deal upon photographic interpretation and emphasis to transport it to the screen with its full dramatic impact intact. Technically, the photography of this black-and-white production reaches a new high, and it can be truly said that Surtees, whose earlier award-winning work has been in color, exceeds all previous accomplishments.

"The Quiet Man," which won for Winton Hoch and Archie Stout the dual awards for best color photography is unquestionably one of Hollywood's finer color productions. Photographed for the most part in Ireland, Hoch and Stout captured the natural beauty of the country with their Technicolor cameras working under continual adverse light conditions. Throughout the picture may be seen many deft lighting and compositional techniques that were so evident in "She Wore A Yellow Ribbon," Hoch's previous Oscar-winning picture.

Although most of Stout's photographic credits are for black-and-white pictures, his lighting and camera work on interiors for "Quiet Man" demonstrate a talent for color photography far too long obscured. Unquestionably we shall see his credit as director of photography on more color productions hereafter.

As is so often the case in the annual Academy Awards, neither of the award-winners for cinematography won the "best picture" award. This honor went to Cecil B. DeMille's "The Greatest Show on Earth." However, "The Bad and the Beautiful" received other awards, in addition to that for photography: Best Supporting Actress, Best Screenplay, Best Art Direction (black-and-white) and Best Costume Design (black-and-white). "The Quiet Man" also was honored with the award for Best Direction, which went to John Ford.

While the Academy no longer makes annual awards for achievement in photographic effects, awards are given only when exceptional achievement in this branch of production is voted by Academy members. This year, Metro-Goldwyn-Mayer was cited for Best Special Effects in its Technicolor production, "Plymouth Adventure"—the award going to Arnold Gillespie, head of the department. For this achievement a substantial measure of credit is due Max Fabian, ASC, and Harold Lipstein, ASC, who did the bulk of the special effects photography of the picture.

This year, the Academy bestowed a number of Honorary and Special awards. Several of these were received by men or organizations closely related to the photography of motion pictures. Eastman Kodak Company received a Class I Technical Award for the introduction of Eastman color negative and Eastman color print films. The award was accepted for the company by Emery Huse, ASC, an executive of the company's Hollywood office.

A like award went to Ansco, Division of General Aniline & Film Corp., for the introduction of Ansco Color negative and Ansco Color print film. This award was accepted by Robert Young, ASC, Ansco's west coast representative.

Technicolor Corporation received a Class II Technical Award for an improved method of color motion picture photography under incandescent light. This was accepted by Dr. Herbert Kalmus, president of Technicolor.

Photo Research Corporation, headed by Karl Freund, ASC, was honored with a Class III Technical Award for its contribution to the motion picture industry in creating the Spectra Color Temperature Meter.

One of six Honorary Awards went to George Alfred Mitchell, ASC, former president of Mitchell Camera Company, for the development of the famous camera which bears his name.

Other major Academy Awards for 1952 were as follows:

Best Actor: Gary Cooper, "High Noon," Stanley Kramer-United Artists, photographed by Floyd Crosby, ASC.

Best Actress: Shirley Booth, "Come Back Little Sheba," Hal Wallis-Paramount production, photographed by James Wong Howe, ASC.

Best Supporting Actor: Anthony Quinn, "Viva Zapata!" 20th Century-Fox, photographed by Joe MacDonald, ASC.

Best Supporting Actress: Gloria Grahame, "The Bad and the Beautiful," MGM, photographed by Robert Surtees, ASC.

Best Direction: John Ford, "The Quiet Man," photographed by Winton Hoch, ASC, and Archie Stout, ASC.

Best Screenplay: Charles Schnee, for "The Bad and The Beautiful."

Best Motion Picture Story: Fred M. Frank, Theo. St. John, and Frank Cavett for "The Greatest Show On Earth," DeMille-Paramount, photographed by

(Continued on Page 176)

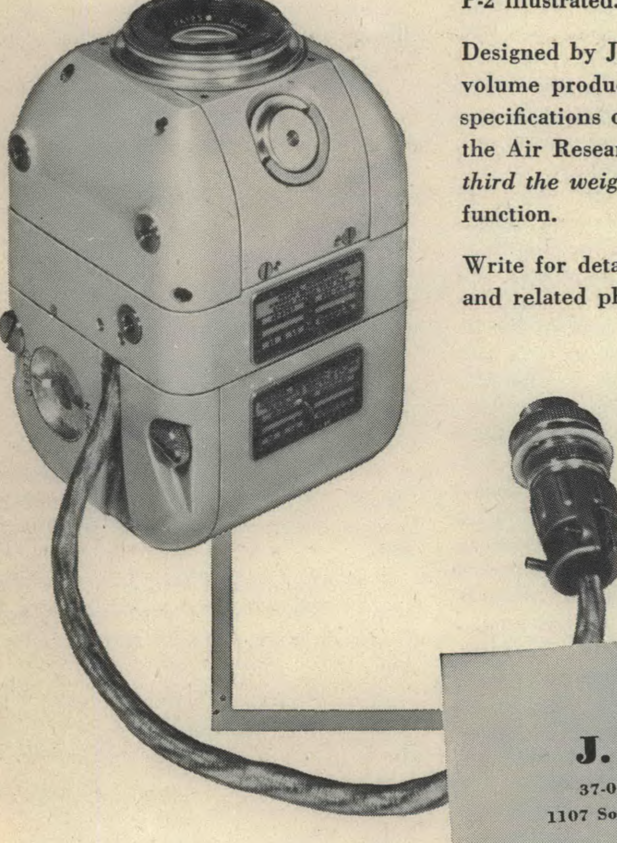
COMBAT PHOTO RECORDS

FROM WORLD'S FASTEST FIGHTERS...

A supersonic jet fighter on a bombing or rocket-strafing mission needs something special in the way of a camera for recording impact and destruction by its weapons. Such a camera is the Maurer P-2 illustrated.

Designed by John A. Maurer, President, developed and now in volume production at the Maurer plant, the Maurer P-2 meets specifications of the Photographic Reconnaissance Laboratory of the Air Research and Development Command—yet is only *one-third the weight* of any previous type camera designed for this function.

Write for detailed information on other high-precision cameras and related photographic equipment.



THE MAURER 16MM., designed specifically for professional use, equipped with precision high-power focusing and view-finder. Standard equipment includes: 235° dissolving shutter, automatic fade control, view finder, sunshade and filter holder, one 400-foot gear-driven film magazine, a 60-cycle 115-volt synchronous motor, one 8-frame handcrank, power cable and a lightweight carrying case.

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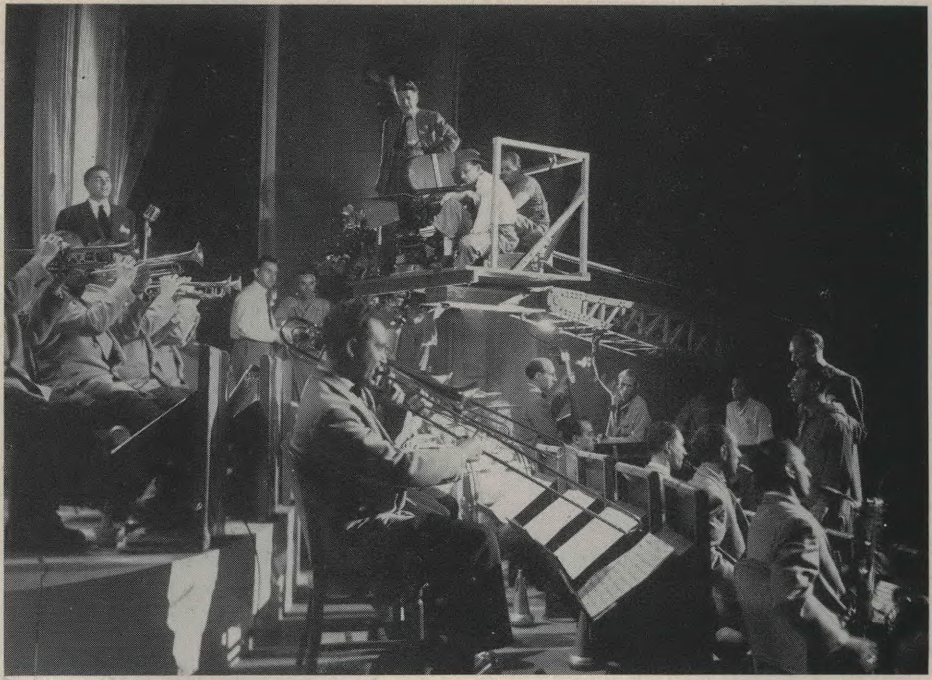


SKILLFULLY executed, a boom shot becomes more than a mere Cook's tour with the camera; it can effectively set the atmosphere for an entire sequence, if not the whole picture.

The Function Of Boom Shots In Feature Film Production

Boom or crane shots impart a fluid quality to photography, enhancing the dramatic values of the script.

By HERB A. LIGHTMAN

THE "BOOM SHOT" derives its name from the camera boom itself: a mobile, counter-weighted crane, embodying at the end of its arm a camera platform capable of being raised or lowered.

The boom shot is not a new technique. It has been used and abused for many years now—and like many other cinematic effects, its value depends largely upon the approach and good taste of the technicians using it.

The boom shot is used (1) to follow action, (2) to capture the full scope of a sweeping subject, (3) to establish a spacial relationship between separate elements of the scene, (4) to focus attention sharply on one part of a wide composition, (5) to help add movement to a basically static situation, and (6) to tie together several separate compositions or set-ups into a single scene.

Let us examine each of these separately:

(1) *To follow action.*—This is the basic and obvious function of all moving camera shots. It assumes that the action of the main subject is of prime importance and that any background which happens to be captured in the scene is a happy dividend. A fairly common application of this shot is to start with a high establishing angle of the situation, boom in to a close shot of a single character, and then follow the action of that character within the basic situation.

(2) *To capture the full scope of a sweeping subject.*—It is in this function that the boom shot really comes into its own. Picture, for example, how difficult it would be to record the action of a film like "The Greatest Show on Earth" without the aid of boom shots. The very immensity of the subject itself cries out for a panoramic visual treatment.

Similarly, the wide, ever-changing tapestry of a historical subject demands a fluid, all-seeing camera perspective. "Quo Vadis," for example, profited greatly from such camera teratment. The colorful pageantry of this film epic was given full sweep by a camera which could start out as part of a milling crowd, then boom to a majestic height to view objectively the mass action of legions on parade, or a holiday crowd crying for blood in the arena.

TO FOLLOW ACTION is the basic and obvious function of all moving camera shots. A common application of this type boom shot is to start with a high establishing shot, then boom in close to the subject or principal character.

"Ivanhoe" is another historical film which made full use of the soaring camera. Here again, the boom shot was made to order for recording the violent action of the jousting bouts, the storming of castles, and the general rough-and-tumble of life in merry old medieval England.

Perhaps the classic example of a boom shot used to lend full sweep to a historical subject is the famous railroad yard sequence in "Gone With The Wind." The scene started out as a simple follow shot, with the camera trained on a character entering the general locale. Then the camera rose high into the air, revealing what seemed like an endless expanse of railroad tracks lined with the bodies of wounded and dying Confederate soldiers. The impact of this striking presentation of the scene made it the outstanding visual moment in a picture filled with outstanding moments.

In films such as these, moving camera shots should be adapted to patterns of action, not vice versa. The happiest result stems from pre-shooting conferences between cameraman and director

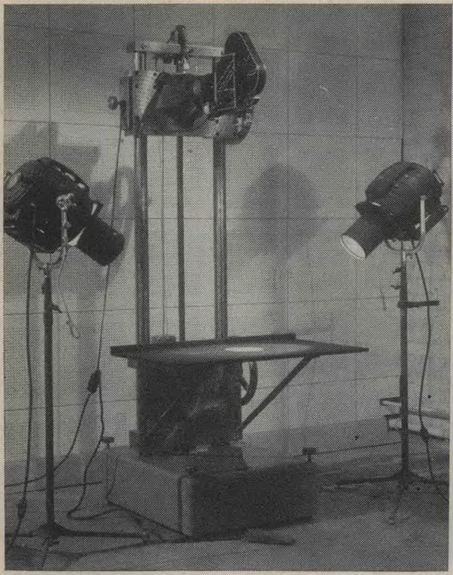
(Continued on Page 183)

An Animation Stand For TV Film Production

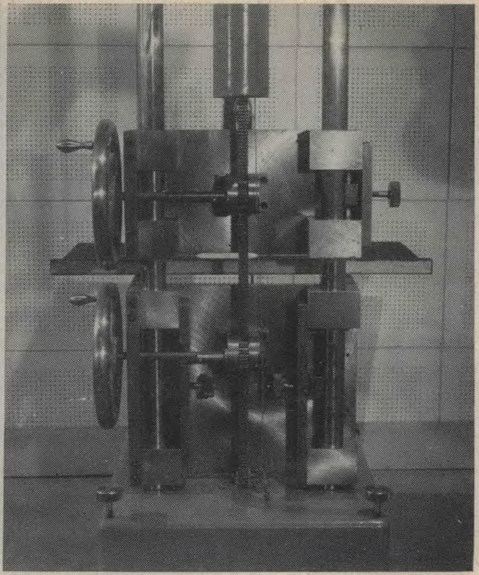
A custom-built animation stand which is ideally suited to needs of average producer of TV film commercials.

By WILLIAM R. WITHERELL, JR.

Production Manager, Video Films, Detroit



ANIMATION stand which Viedo Films built to suit company's specific needs for TV spot film production; cost about $1,500.



REAR view of stand, showing camera and table plates and their respective rack and gear assemblies.

THERE ARE CURRENTLY on the market animation stands that do just about everything in the way of filming animated cartoons except ink the cels. They are wonderful examples of precision machining and there is little doubt that they are well worth the cost. Unfortunately, Video Films, like many film producers of moderate circumstances, is in no position to tie up some $11,000 in a super deluxe animation camera mount.

A few months ago, however, we came to the realization that we had to have something better than what we had been using. We foresaw a demand for more and more of all the things that only a good animation stand will provide. So we did what we have always done when we've wanted something we couldn't afford to buy: we designed one to our own specifications and had it built. In the belief that other film producers, educational institutions and industrial photo units will benefit from our experience and find ways to adapt the design of our animation stand to their own needs, here, briefly, are our findings:

To go back to the beginning, our first stand was horizontal. This was nothing more than the camera and Hi-Hat mounted on a square of plywood, which was equipped with three wheels that enabled us to roll it back and forth on two tracks which were hinged to a wall. This arrangement proved very satisfactory for fast zooms on stills and other static artwork. It was especially helpful in dollying in to small product setups for TV commercials, such as bottles and glasses of beer, etc., where the camera must end up focusing on a label. We still use this equipment often.

Encouraged, we undertook to duplicate this apparatus in a vertical posi-

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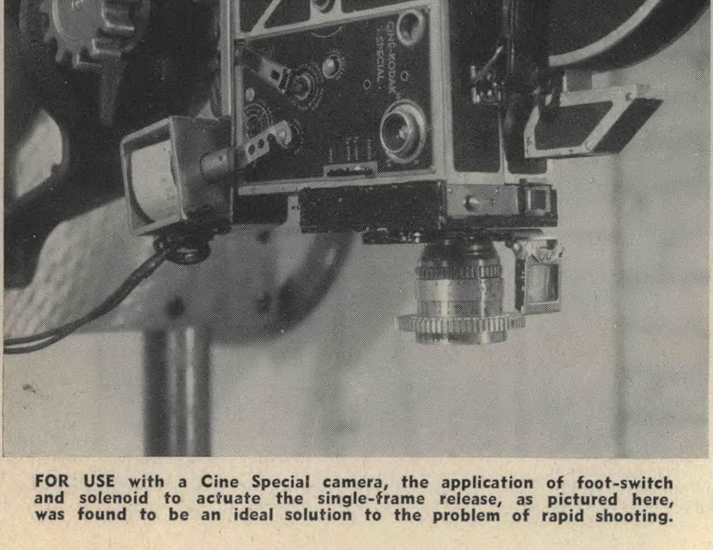
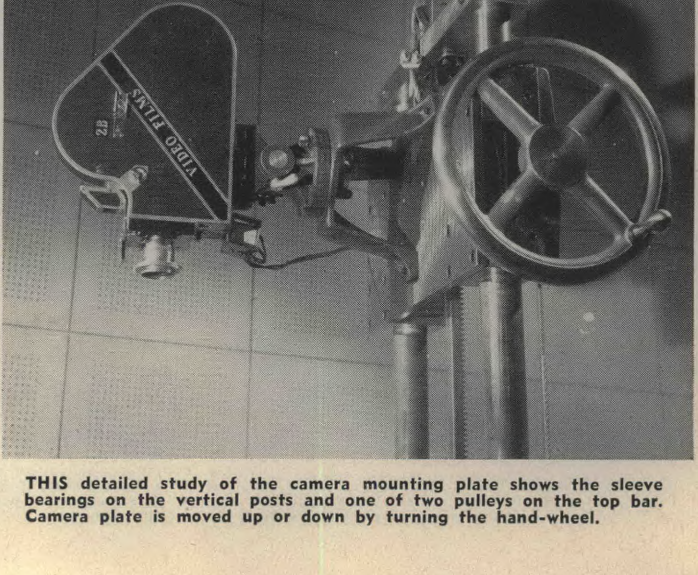


FOR USE with a Cine Special camera, the application of foot-switch and solenoid to actuate the single-frame release, as pictured here, was found to be an ideal solution to the problem of rapid shooting.



THIS detailed study of the camera mounting plate shows the sleeve bearings on the vertical posts and one of two pulleys on the top bar. Camera plate is moved up or down by turning the hand-wheel.

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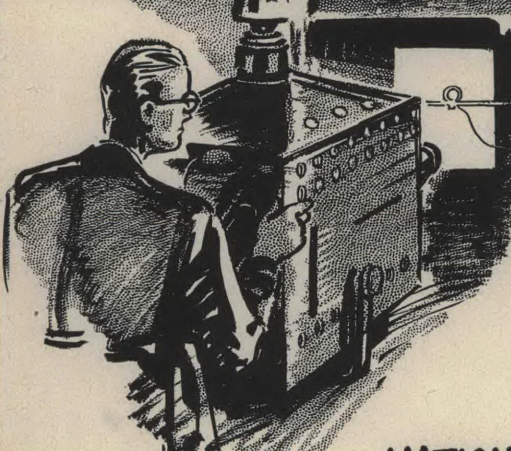

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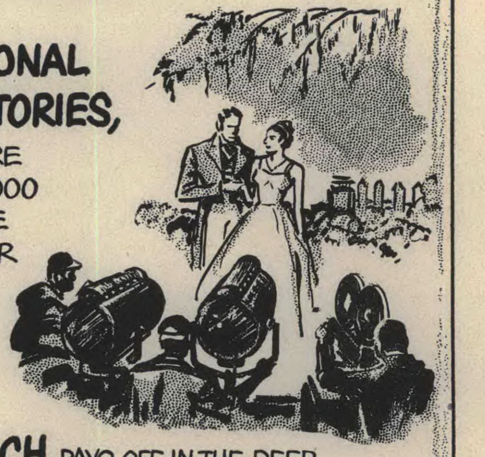

NATIONAL CARBON RESEARCH PAYS OFF IN THE DEEP SET PENETRATION, BROAD COVERAGE, SHARP SHADOWS AND RELATIVE COOLNESS THAT RESULT FROM THE HIGH EFFICIENCY AND SMALL SOURCE SIZE OF "NATIONAL" CARBON ARCS.

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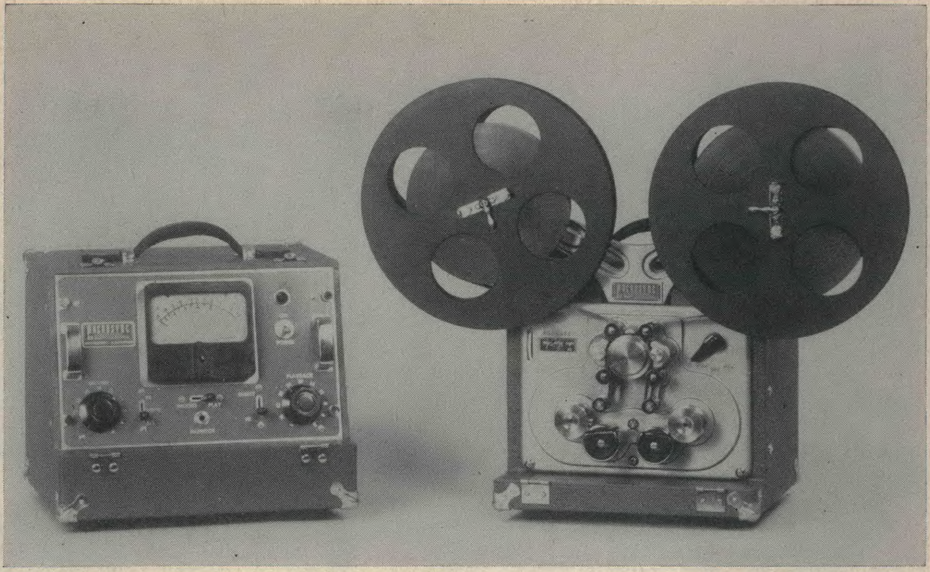


FIG. 1—The complete Model SW-602 Magnasync magnetic film recorder in portable cases. Overall size is 8" x 11" x 11" with a net weight for the two units of 39 lbs. Here reel arms are extended to accommodate 1200-foot film rolls.

The Magnasync Recorder

Compact, low-cost magnetic recorder ideally suited to needs of the independent, institutional or TV film producer.

By D. J. WHITE

Magnasync, North Hollywood, Calif.

GRADUALLY A SET of rigid standards have been established by which the manufacturer of magnetic film recorders must be guided. These standards have developed partly through normal technological evolution, but to a greater degree, they have been laid down by the motion picture sound men. These are the people who assume responsibility to the producer for results—not excuses.

In order of importance, they have insisted upon three essential qualifications for an acceptable magnetic film recorder:

1—Regardless of cost, size or weight, such a machine must perform to the highest set of contemporary standards.

2—It must be dependable, consistent and rugged enough to withstand the abuses of field work without a need for endless adjustments and maintenance.

3—If the first two qualifications can be met it should be as light weight and compact as is consistent with good engineering practice.

Using this three-point program as a slide rule, Magnasync engineers set about to design its model sw-602. Any technical problem can be solved if the factor "regardless of cost" is entered into the formula. It has long been the hope of producer and sound man alike that such a machine could be manufactured to sell at a price consistent with the financial problems of making and selling films. The full story of how the last objective was reached is a subject in itself which could consume a large portion of this article. The point of principle interest to which this writing is devoted, revolves around the end results of the program.

Magnasync recording and reproducing equipment is all designed around a compact, high-quality film transport. Using this transport mechanism as a heart, and adding elements as needed, the Magnasync system may be expanded from a basic, fundamental recorder to any degree of complexity according to the requirements of the user.

To make this program fully effective, the basic mechanism had to be designed to transport film with the highest degree of motion stability. As a result, the small producer, who uses the standard sw-602 miniature recording system is able to develop a sound track as free of flutter and wow as the major producer who avails himself of all the accessory Magnasync equipment. Recent flutter-bridge tests conducted by a research laboratory not associated with the manufacturer of the Magnasync, produced logged results shown in Figure 4, with 16mm film traveling at 36 feet per minute on a standard model sw-602 Magnasync. A study of this chart reveals the fact that Magnasync flutter and wow is well below the published specification of 0.2% R.M.S. maximum. Combine this excellent motion with the sw-602 portable amplifier which produces a clean, distortion-free response spectrum flat from 50 cps to 8000 cps ± 2 db and it is readily understandable why this machine has been so well received by the motion picture sound men on the basis of performance specifications.

The miniaturization of a film transport capable of performing to these standards was probably the most difficult part of the Magnasync project. It was, however, essential if the machine

(Continued on Page 192)

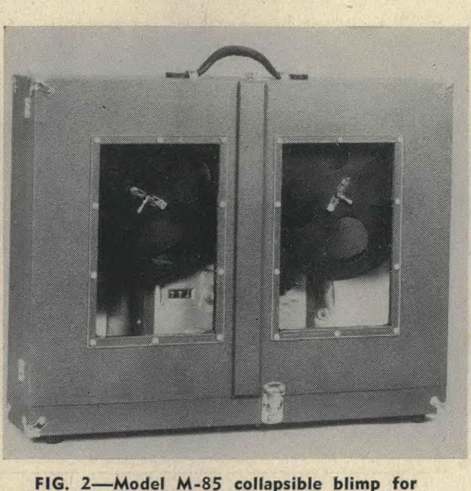


FIG. 2—Model M-85 collapsible blimp for the SW-602 recorder, permitting operation of recorder close to microphone.

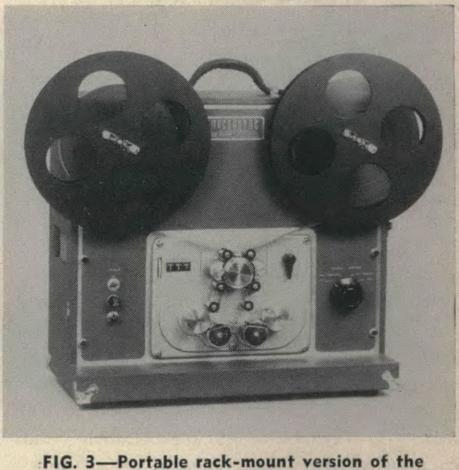
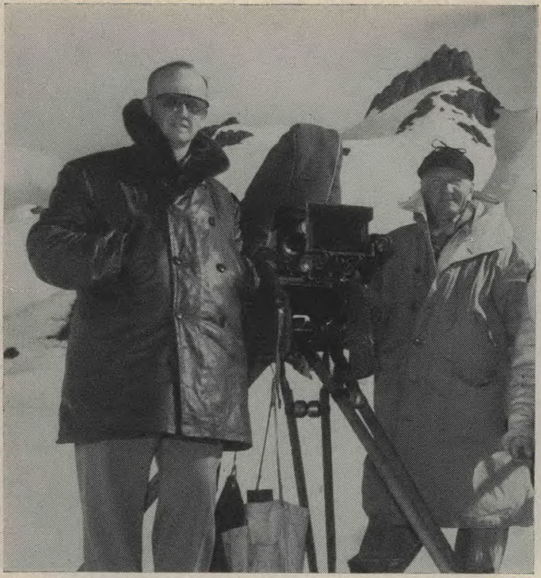


FIG. 3—Portable rack-mount version of the Magnasync recorder. Clutch overdrives and separate motors control takeup, rewind.



ROBERT SURTEES, ASC, (left) photographed MGM's "The North Country," the first Ansco Color feature film production, achieved remarkable results. With him is his assistant, Johnny Schmitz.

IN "THE WILD NORTH," pictorial grandeur is enhanced by a range of light value contrasts in perfect color balance, from the eye-dazzling highlights to the wealth of pictorial detail simultaneously visible in deep shadow. With film of such range of response, exterior color scenes need no longer appear flat and uninteresting.

The New Ansco Color Film And Process

Ansco Color film possesses photographic latitude ranging from realistic highlights to the detail inside deep shadows.

By ROBERT A. MITCHELL

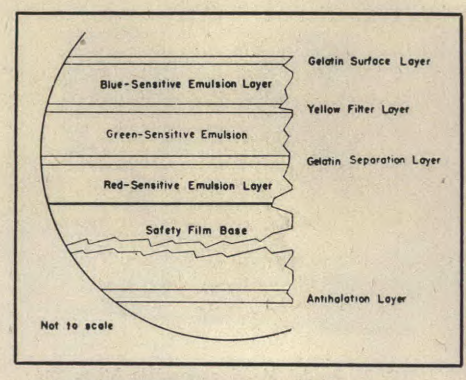
NOTE—*It was just a year ago that American Cinematographer magazine reported on Metro-Goldwyn-Mayer's initial Ansco Color production, "The Wild North." Since then, MGM has completed its second Ansco Color feature, "Ride Vaquero," and is currently in production on two more, "Take The High Road," and "Arena." The following article, which is condensed and reprinted from* International Projectionist, *for December, 1952, treats the subject of Ansco Film more technically than did our initial report. Omitted is the author's description of the processing procedure.*—EDITOR

A NEW consciousness of the unlimited possibilities of color is making itself felt in the motion-picture industry. Not only are more feature pictures filmed in color than ever before, but newer full-color processes which permit greater photographic freedom, studio color-film processing, and release-print manufacture by regular "black-and-white" laboratories, are very much in evidence.

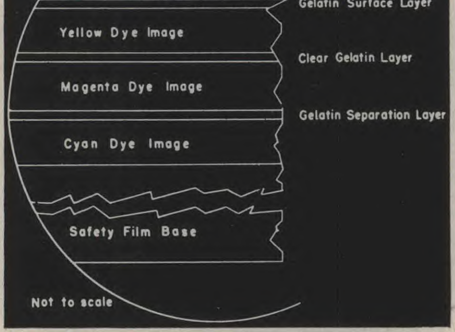
Among the foremost of these new processes is Ansco color, used for filming and printing MGM's "The Wild North." In this production the full range of tone and color faithfully reproduced the freshness and ruggedness of the Canadian Northwest. The blue of sky and water, and the innumerable tones of green in natural foliage, flashed forth clearly and brilliantly on the screen to give a perfect illusion of reality.

In some color films the deep shadows in a photographed scene are actually a fog of dark red in which all pictorial detail is hopelessly lost. To prevent obliteration of the shadow detail in such films, it is necessary for the producer either to decrease the overall density (which unfortunately transforms the wispy texture of the highlights to a featureless glare) or else to reduce the photographic latitude, making the picture "thin" and "flat."

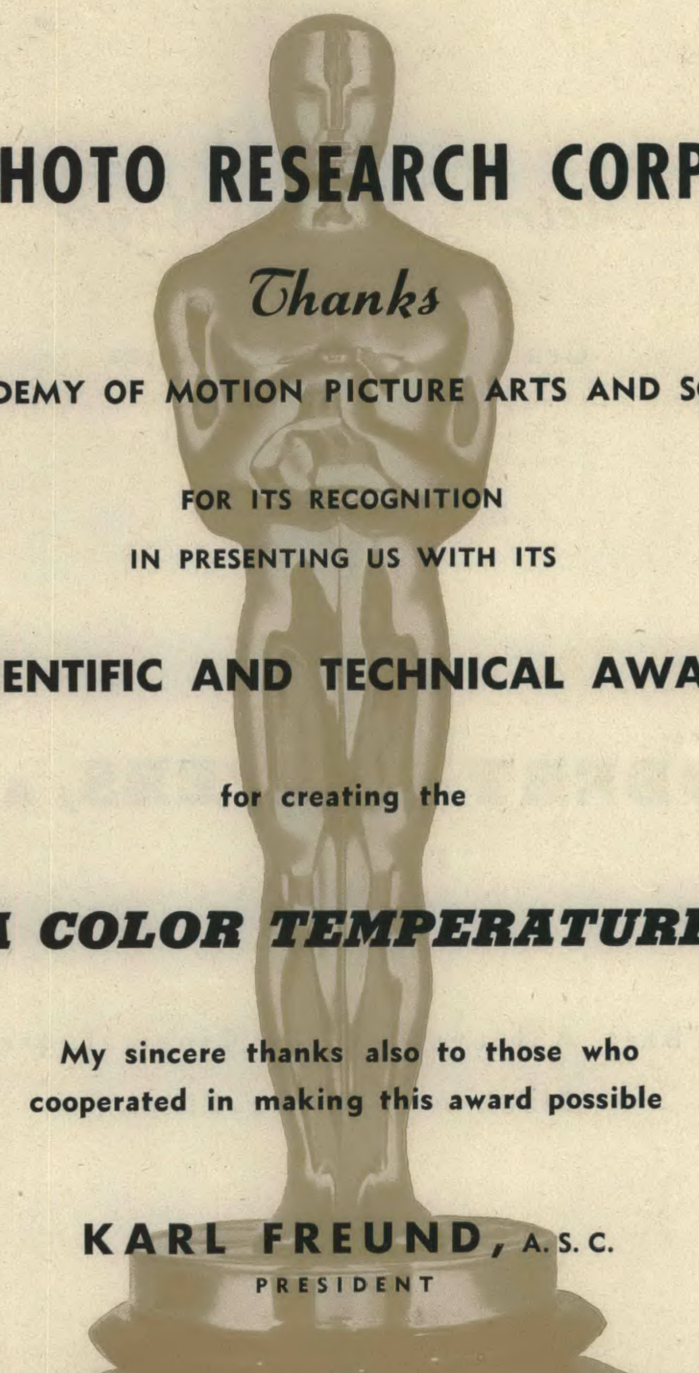
(Continued on Page 177)



UNDEVELOPED Ansco Color film, showing the color-sensitive emulsion layers.



DEVELOPED Ansco Color film, showing emulsion converted to dye images.



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for creating the

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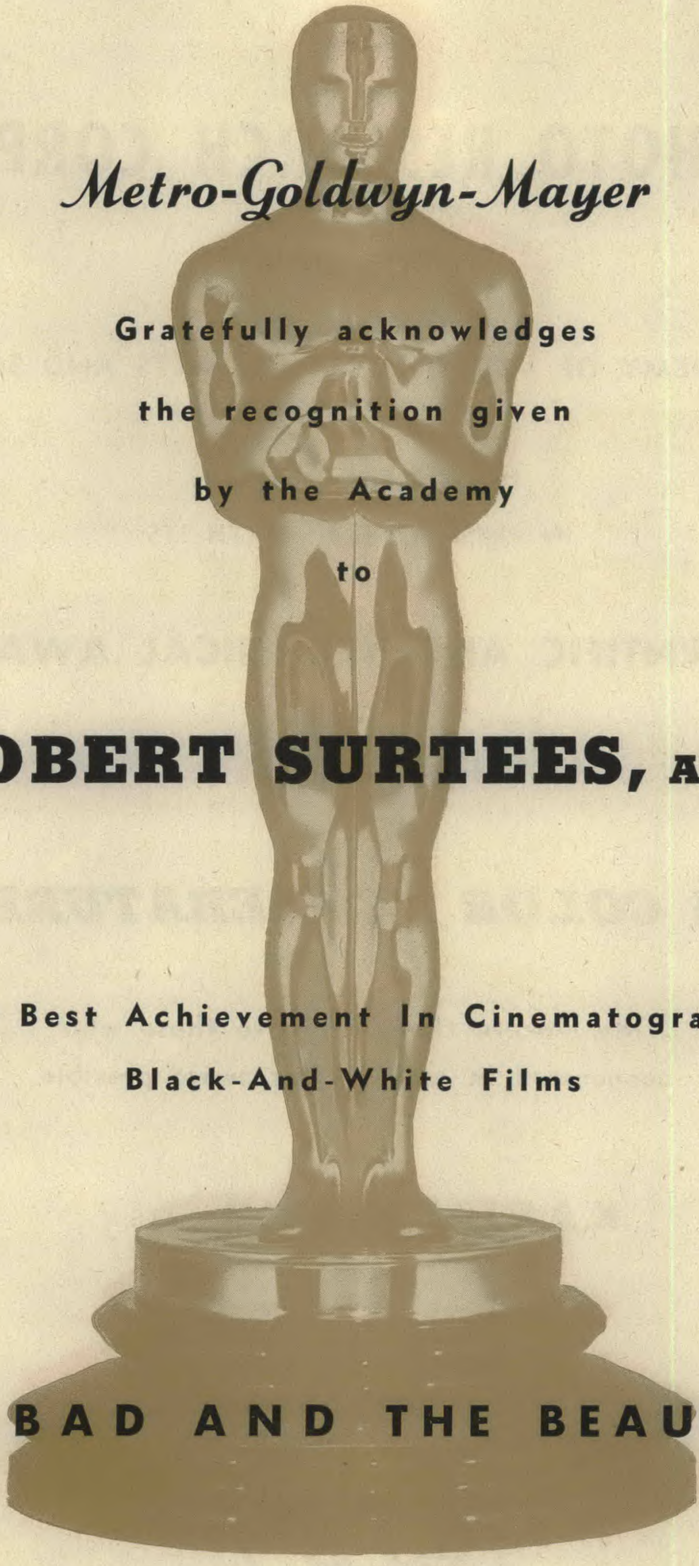
My sincere thanks also to those who
cooperated in making this award possible

KARL FREUND, A. S. C.
PRESIDENT

TWENTY-FIFTH ANNUAL AWARDS



Metro-Goldwyn-Mayer

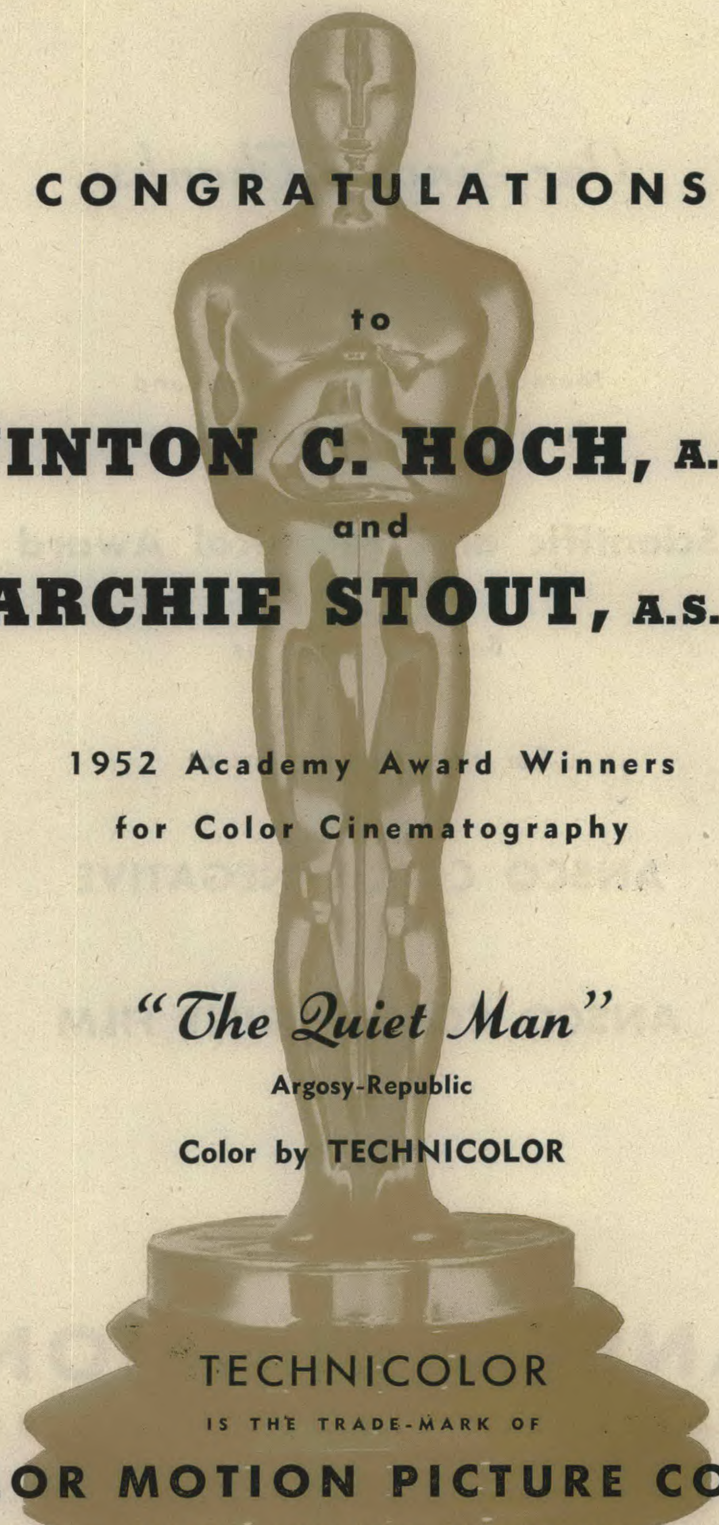
Gratefully acknowledges
the recognition given
by the Academy
to

ROBERT SURTEES, A.S.C.

For Best Achievement In Cinematography
Black-And-White Films

''THE BAD AND THE BEAUTIFUL''

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES



CONGRATULATIONS

to

WINTON C. HOCH, A.S.C.

and

ARCHIE STOUT, A.S.C.

1952 Academy Award Winners
for Color Cinematography

"The Quiet Man"
Argosy-Republic
Color by TECHNICOLOR

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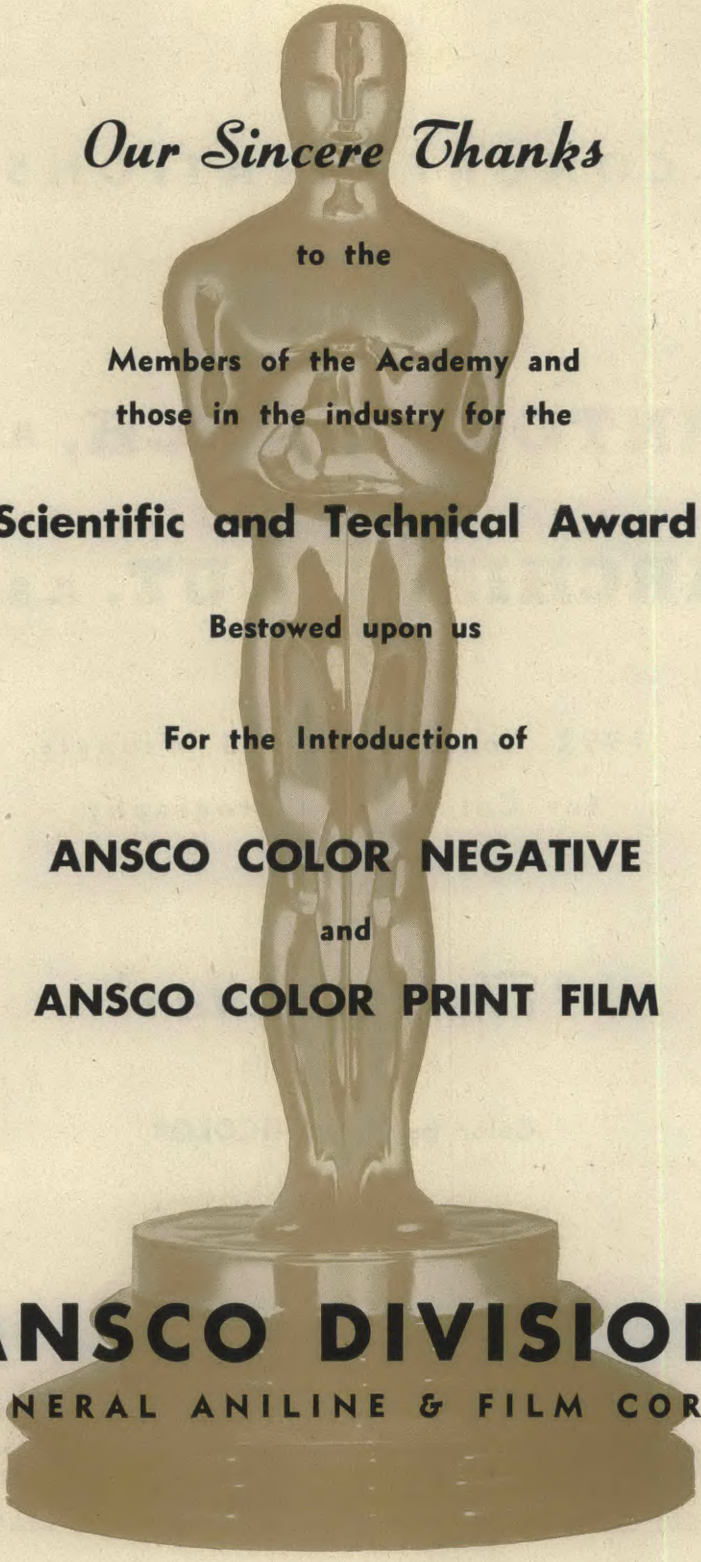

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those in the industry for the**

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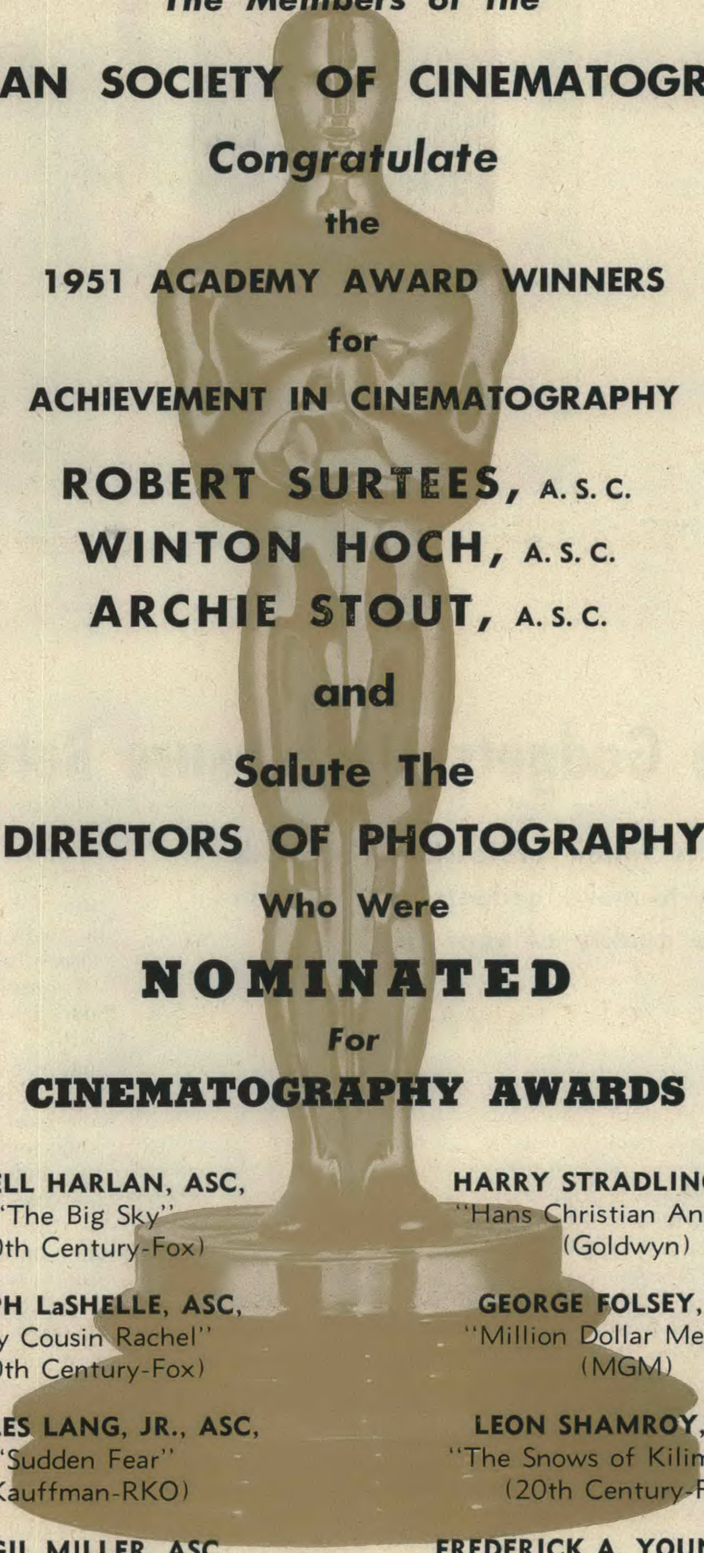
and

ANSCO COLOR PRINT FILM

ANSCO DIVISION

GENERAL ANILINE & FILM CORP.

TWENTY-FIFTH ANNUAL AWARDS



The Members of the

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Congratulate

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for

ACHIEVEMENT IN CINEMATOGRAPHY

ROBERT SURTEES, A. S. C.
WINTON HOCH, A. S. C.
ARCHIE STOUT, A. S. C.

and

Salute The

DIRECTORS OF PHOTOGRAPHY

Who Were

NOMINATED

For

CINEMATOGRAPHY AWARDS

RUSSELL HARLAN, ASC,
"The Big Sky"
(20th Century-Fox)

JOSEPH LaSHELLE, ASC,
"My Cousin Rachel"
(20th Century-Fox)

CHARLES LANG, JR., ASC,
"Sudden Fear"
(Kauffman-RKO)

VIRGIL MILLER, ASC,
"Navajo"
(Lippert)

HARRY STRADLING, ASC,
"Hans Christian Andersen"
(Goldwyn)

GEORGE FOLSEY, ASC,
"Million Dollar Mermaid"
(MGM)

LEON SHAMROY, ASC,
"The Snows of Kilimanjaro"
(20th Century-Fox)

FREDERICK A. YOUNG, ASC,
"Ivanhoe"
(MGM)

ACADEMY OF MOTION PICTURE ARTS AND SCIENCES

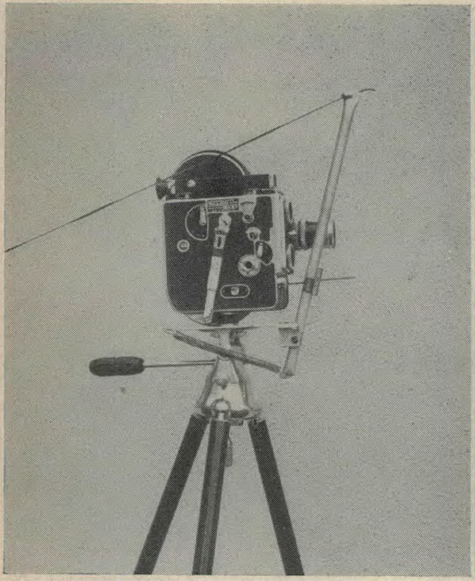

FIG. 1—Simple remote control for camera permits rare shots of wildlife, etc.

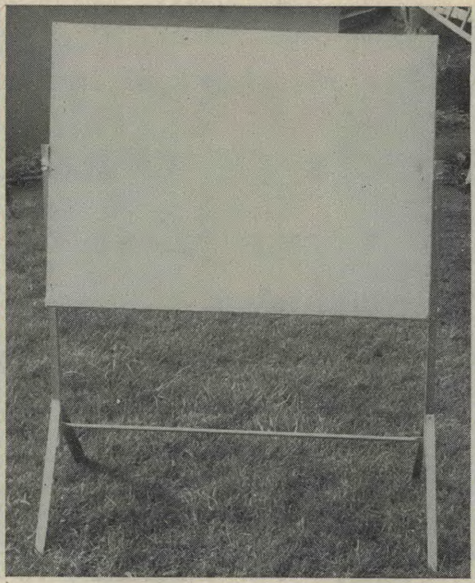

FIG. 2—All professionals use reflectors for outdoor filming; they're easy to make.

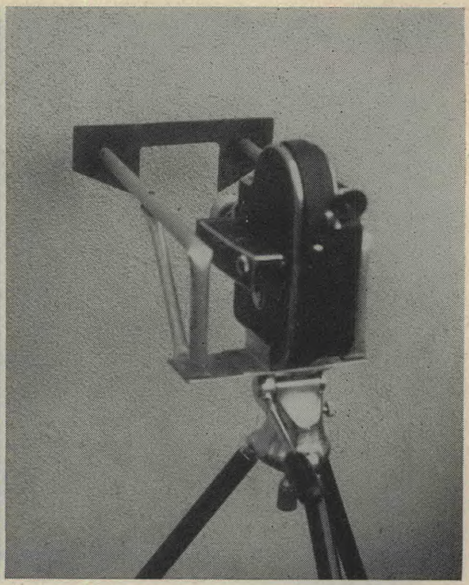

FIG. 3—For extreme closeups, a focal frame will insure sharp focus and center.

Homemade Gadgets That Insure Better Movies

Professional results follow professional methods. Here are six easy-to-make gadgets that will improve the quality of your films.

By C. C. CHUVAX

GIVE MOST ANY serious amateur movie-maker adequate equipment and he'll turn out films the equal of many 16mm professionals'. That he doesn't always have the equipment that professionals have at their disposal is often a discouraging situation for the cinefilmer with a hot idea for a really serious movie. Still, the quality of most priez-winning cine films points to the fact that the imaginative and ingenious cinebug will invariably find a substitute for costly professional equipment, if the need is great enough. A few hours in the home workshop and an idea will work wonders for the cine filmer handy with tools.

Of course a primary requisite for good movie making is a good camera, a good lens and a sturdy tripod. There can be no substitute for these, and no improvisions. The more versatile the camera the better. If we expect to do special effects work, such features on our camera as a single-frame movement, a variety of forward speeds, a footage and frame counter, a reverse film movement and an accurate viewfinder become increasingly important as we get into the job of producing amateur movies with a professional touch.

Perhaps one of the most versatile pieces of movie making equipment that one can construct in his garage or home workshop is a title stand. The one illustrated (Fig. 4) is a substitute for a professional version. Yet it is quite simple and inexpensive. The base of the stand is constructed of two-inch wood material, while the camera mount is fastened to a snug-fitting block that will slide smoothly from one end of the base to the other. The easel at one end of the base is made of soft plywood. Here title cards and background material are quickly and easily mounted with the aid of thumb tacks. The base of the stand can be marked off in feet and inches from the easel to simplify the focusing problem. Zoom effect titles can be produced by starting camera movement at a position farthest from the easel and slowly moving it forward. The reverse of a zoom effect of course can be produced by starting the camera movement with a close up of a title card and slowly pulling the camera back. By making careful note of the footage registered by the camera when starting to expose the title, and again when the title filming is concluded, super-imposing a background on titles becomes a simple matter. With a cap over the lens, simply wind the film back to the starting position, substitute a selected background for the title card on the easel, and expose the same footage over again according to exposure indicated by a light reading of the background.

Other uses for the title stand include making titles that slide in and out of the lens view from left to right and those that rise vertically before the lens. Also a miniature set can be constructed on the unit in which animation and scenes in miniature may be photographed. Many tricks in table top photography may be indulged in also.

The photographing of wild life is becoming increasingly popular with both amateur and professional cinematographer, and we are accustomed to thinking of such work as being done with an assortment of expensive telephoto lenses. While a good telephoto lens is a very useful piece of equipment, a remote controlled camera with a normal lens and a little patience on the part of the operator will net many worthwhile shots that are equal to or better than many telephoto efforts.

Illustrated is a remote control gadget for a Bolex camera (Fig. 1). It consists essentially of a cord-operated lever that presses the camera starter button when the cord is pulled from a point some distance away. With this arrangement it is possible to operate the camera from distances up to 75 feet. The procedure to follow is to set the remote-controlled camera up near the feeding places of wild life and wait for their appearance. In this work a sturdy tripod is essential. Lens-to-subject distance should not be less than four feet, due to the possibility of camera noise frightening your subjects.

Another device which the amateur cinematographer will find useful is a focal frame for doing extreme close up work. (Fig. 3) Lens attachments are available at local supply stores that enable a normal lens to focus down to within ten inches or less. In such closeup work the normal finder on the camera is no longer accurate and other means must be provided for determining the field of view. This is the function of the focal frame. The focal frame illustrated shows the set-up for a 25mm lens with a plus-three attachment. The lens to subject distance here is six inches and the field of view is 1⅞ by 2⅞ inches.

In most professional film making reverse action work is usually done in laboratories on special effects printers. Where the amateur desires such effects he must resort to reverse action photography with his camera—that is photography made with the camera mounted in an upside-down position. Film so exposed and projected in the reverse order can give the effect of a simulated automobile crash—of flowers jumping from the ground to the hand of a subject and etc.

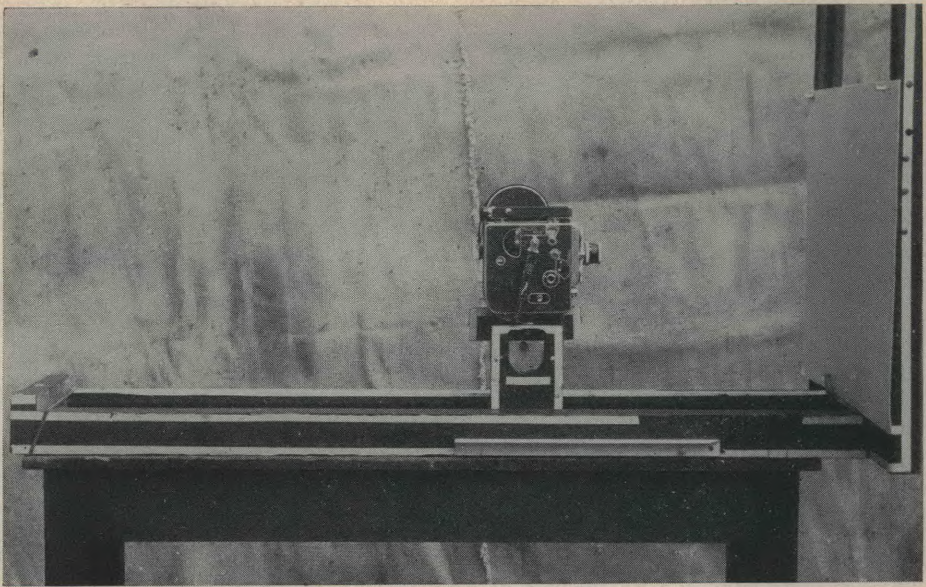

FIG. 4—Here's an easy to make titler that enables the amateur to make titles of a size large enough to utilize inexpensive cut-out letters, photo backgrounds, etc. Any number of ways can be devised to insure accurate centering of camera with title board.

For making trick reverse-action shots with the camera in inverted position, it is important that the inverted camera be mounted on a tripod and be as rigid and yet flexible in operation as when mounted normally. A simple device for so mounting any cine camera is pictured in Fig. 5. It consists of a short length of ¼-inch strap-iron, braced as shown to the tripod with a length of aluminum tubing. Holes drilled at either end of the strap-iron take the tripod screw and also screw for mounting the camera.

A good light reflector is another piece of equipment that plays an important part in making movies with professional quality. The importance of reflected light is readily apparent when doing closeup or medium closeup work out-of-doors with any type of film. And when doing low contrast lighting for color film, a good light reflector will save many shots that might otherwise wind up in the waste can.

The construction of a reflector is perhaps the most simple of all movie making gadgets. Essentially it consists of a light reflecting surface, some two by three feet in size, and means of positioning it so that its reflected light will strike the subject being photographed from the proper direction. (See Fig. 2).

In the former requirement a piece of heavy cardboard, given a couple of coats of aluminum paint, makes a good reflector for soft light. A mount for the reflector may assume many forms. Best, perhaps, is a frame that allows the reflecting surface to be moved vertically,

(Continued on Page 193)

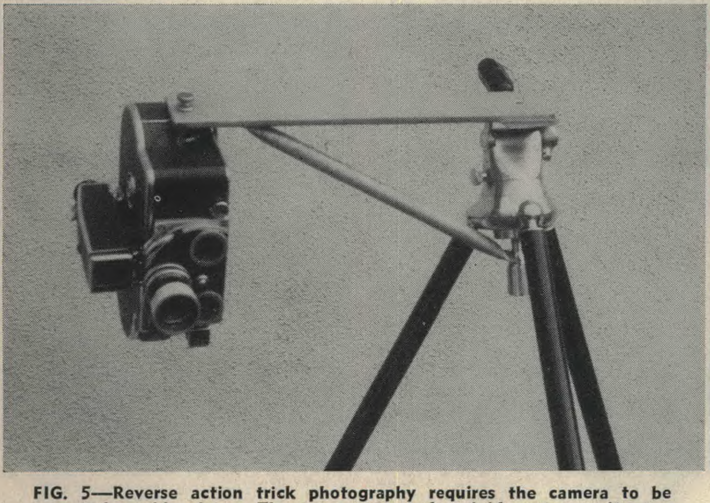

FIG. 5—Reverse action trick photography requires the camera to be mounted upside down. The mount must be rigid, yet permit easy access to camera. Here's a simple reverse gadget anyone can make.

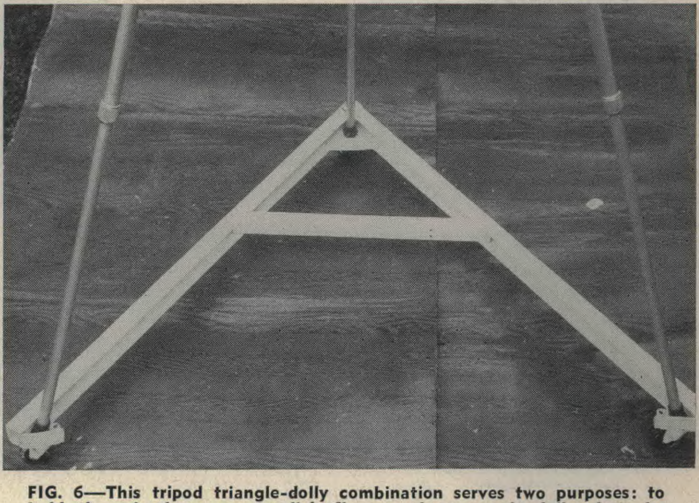

FIG. 6—This tripod triangle-dolly combination serves two purposes: to hold the tripod secure on slick floors and to permit dolly shots by the camera operator himself; author's text tells how.

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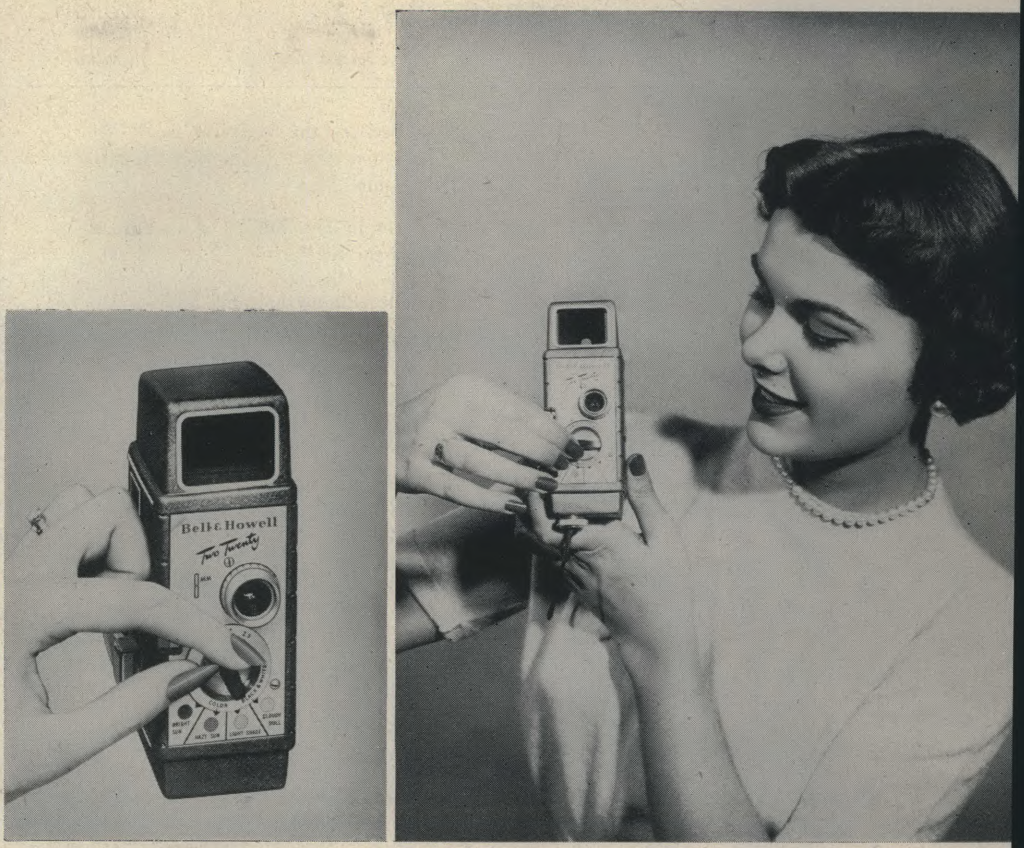

WITH BELL & HOWELL'S new model "220" 8mm cine camera, movie making is easy and inexpensive. A turn of the "Sundial" (left) to the reading that matches the outdoor light automatically sets the lens. Lens is fixed-focus, so there are no other adjustments to make.

Set, Sight and Shoot!

Yes, that's all there is to making movies with Bell & Howell's newest 8mm camera that features automatic f/stop selector and exclusive "picture window" viewfinder.

By JOHN FORBES

IF THE LADY in your life has always wanted to shoot movies but shies away from using your camera because "it's too complicated," or if she's the type who's always using *your* camera when she shouldn't, here's the brand new Bell & Howell "220", just made to order for her. In fact this camera was designed for everyone who wants a simple, sure and accurate camera for making movies of family events, vacation trips, etc. With this slick 8mm job all one needs to do is *set, sight,* and *shoot!* . . . it's that simple.

Bell & Howell Company not only had movies-minded wives in mind when designing the "220," but a lot of other people who'd like to shoot movies if only they could do it simply and with assurance they'd get consistently good pictures. The result was the "220"—the camera that enables anyone to make 8mm movies in black-and-white or color as easy as making snapshots with a "Brownie."

The attractive feature of the camera is its simplified "Sundial" exposure computer coupled with the lens diaphragm that insures good exposures and dispenses with need for an exposure meter. The "Sundial" may be seen just below the lens in the photograph above, left. On the scale-plate are four positions corresponding to four generally-encountered outdoor light conditions: bright sun, hazy sun, light shade, and cloud-dull. Turning the "Sundial" to the reading that matches the existing outdoor light automatically sets the lens at the proper opening for either color or black-and-white film. For those who would set the lens according to f/stops, these are inscribed on the upper portion of the "Sundial" and range from f/2.5 to f/16. So, with setting exposure reduced to such a simple routine, how can anyone miss?

The 10mm f/2.5 coated lens is prefocused to obtain sharp pictures at its widest opening, so there is never a focusing problem. The lens covers 25% more picture area than conventional lenses supplied with 8mm cameras. A telephoto attachment is available as accessory equipment.

The next and no less important feature of the "220" is the "picture window" viewfinder — the largest and brightest of any cine camera. It's right on top of the camera where it is easy to use; you see the exact area to be filmed with everything lifelike in size.

A complete winding of the "220's" hand crank provides a full ten foot film run. There is a mechanism which stops the camera before the motor is fully unwound. This means that the camera speed is constant over the full ten-foot film run, insuring perfectly exposed pictures from the beginning to the end of each scene. The camera runs at the conventional 16 frames per second for complete simplicity of operation.

The camera's starting button can be set for (1) normal operation, (2) continuous run, which allows the cameraman to get into the picture, and (3) single-frame exposure for animation work and trick effects.

The "220" uses low cost 8mm film in black-and-white or color. Film is dropped into the camera. There are no sprockets to thread. The film gate closes automatically as the camera door snaps shut, eliminating any chance of spoiling film by forgetting to close the gate. The footage counter automatically sets itself as the camera door closes. You can tell at a glance the number of feet exposed and the number unexposed.

There's no leather on the camera anywhere to peel or strip off. The camera case is entirely die-cast and finished in

(Continued on Page 187)

ROSTER OF CINEMATOGRAPHY OSCAR WINNERS 1928 to 1952

Year	*Class.*	*Cameraman*	*Picture Title*	*Studio*
1952	B&W	Robert Surtees, A.S.C.	"The Bad and the Beautiful"	MGM
	Color	Winton Hoch, A.S.C.	"The Quiet Man"	Argosy
	Color	Archie Stout, A.S.C.	"The Quiet Man"	
1951	B & W	William Mellor, A.S.C.	"A Place In The Sun"	Para.
	Color	Alfred Gilks, A.S.C.	"American In Paris"	MGM
	Color	John Alton, A.S.C.	"American In Paris" (Ballet Photography)	
1950	B & W	Robert Krasker	"The Third Man"	British
	Color	Robert Surtees, A.S.C.	"King Solomon's Mines"	MGM
1949	B & W	Paul Vogel, A.S.C.	"Battleground"	MGM
	Color	Winton Hoch, A.S.C.	"She Wore Yellow Ribbon"	R.K.O.
1948	B & W	William Daniels, A.S.C.	"The Naked City"	U-I
	Color	Joseph Valentine, A.S.C.	"Joan Of Arc"	R.K.O.
	Color	William V. Skall, A.S.C.	"Joan Of Arc"	
	Color	Winton Hoch, A.S.C.	"Joan Of Arc"	
1947	B & W	Guy Green	"Great Expectations"	Rank-U-I
	Color	Jack Cardiff, A.S.C.	"Black Narcissus"	Rank-U-I
1946	B & W	Arthur Miller, A.S.C.	"Anna And King Of Siam"	Fox
	Color	Charles Rosher, A.S.C.	"The Yearling"	MGM
	Color	Leonard Smith, A.S.C.	"The Yearling"	
	Color	Arthur Arling, A.S.C.	"The Yearling"	
1945	B & W	Harry Stradling, A.S.C.	"Picture Of Dorian Gray"	MGM
	Color	Leon Shamroy, A.S.C.	"Leave Her To Heaven"	Fox
1944	B & W	Joseph LaShelle, A.S.C.	"Laura"	Fox
	Color	Leon Shamroy, A.S.C.	"Wilson"	Fox
1943	B & W	Arthur Miller, A.S.C.	"Song Of Bernadette"	Fox
	Color	Hal Mohr, A.S.C.	"Phantom Of The Opera"	Univ.
	Color	W. Howard Greene	"Phantom Of The Opera"	
1942	B & W	Joseph Ruttenberg, A.S.C.	"Mrs. Miniver"	MGM
	Color	Leon Shamroy, A.S.C.	"The Black Swan"	Fox
1941	B & W	Arthur Miller, A.S.C.	"How Green My Valley"	Fox
	Color	Ernest Palmer, A.S.C.	"Blood And Sand"	Fox
	Color	Ray Rennahan, A.S.C.	"Blood And Sand"	
1940	B & W	George Barnes, A.S.C.	"Rebecca"	Selznick
	Color	George Perrinal	"Thief Of Bagdad"	Korda
1939	B & W	Gregg Toland, A.S.C.	"Wuthering Heights"	Goldwyn
	Color	Ernest Haller, A.S.C.	"Gone With The Wind"	Selznick-MGM
	Color	Ray Rennahan, A.S.C.	"Gone With The Wind"	
1938		Joseph Ruttenberg, A.S.C.	"The Great Waltz"	MGM
1937		Karl Freund, A.S.C.	"The Good Earth"	MGM
1936		Tony Gaudio, A.S.C.	"Anthony Adverse"	WB
1935		Hal Mohr, A.S.C.	"Midsummer Night's Dream"	WB
1934		Victor Milner, A.S.C.	"Cleopatra"	Para.
1933		Charles B. Lang Jr., A.S.C.	"A Farewell To Arms"	Para.
1932		Lee Garmes, A.S.C.	"Shanghai Express"	Para.
1931		Floyd Crosby, A.S.C.	"Tabu"	Para.
1930		William Van Der Veer	"With Byrd At So. Pole"	Para.
		Joseph T. Rucker	"With Byrd At So. Pole"	
1929		Clyde DeVinna, A.S.C.	"White Shadows In So. Seas"	MGM
1928		Charles Rosher, A.S.C.	"Sunrise"	Fox
		Karl Struss, A.S.C.	"Sunrise"	

ACADEMY AWARDS

(Continued from Page 159)

George Barnes, ASC, and Pev Marley, ASC.

Best Story and Screenplay: T. E. B. Clarke, "Lavender Hill Mob," J. Arthur Rank-Ealing Studios.

Best Art Direction (Black-and-white): Cedric Gibbons and Edward Carfagno, "The Bad and the Beautiful," MGM. (Color): Paul Sheriff, "Moulin Rouge," Romulus Films.

Best Set Direction (Black-and-white): Edwin B. Willis and Keogh Gleason, "The Bad and the Beautiful," MGM. (Color): Marcel Vertes, "Moulin Rouge," Romulus Films.

Best Film Editing: Elmo Williams and Harry Gerstad, "High Noon," Stanley Kramer Productions.

Best Sound: "Breaking The Sound Barrier," London Films.

Runners-up in the competition for cinematography awards were the following directors of photography—all members of the A.S.C.:

Russell Harlan, who photographed "The Big Sky," for Fox; Joseph La Shelle, who photographed "My Cousin Rachel" for Fox; Virgil Miller, who photographed "Navajo" for Hall Bartlett; Charles Lang who photographed "Sudden Fear" for Kauffman-RKO; Harry Stradling, who photographed "Hans Christian Andersen" for Goldwyn; Frederick Young, who photographed "Ivanhoe" for MGM.; George Folsey, who photographed "Million Dollar Mermaid" for MGM; and Leon Shamroy, who photographed "The Snows of Kilimanjaro" for Fox.

This year, a total of ten 1952 productions were nominated for cinematography awards by the Academy, as reported here last month. Five were in color and five in black-and-white. The above-named runners-up as well as those in other classifications will each receive a Nomination Certificate from the Academy. This is no small honor, for it often happens that only a very few votes separate the "also-rans" from the Oscar winners.

Several members of the A.S.C., incidentally, served on the Academy subcommittees. Sol Halprin, John Arnold, Joseph LaShelle, Charles Lawton, Ted McCord, Nick Musuraca, Sol Polito, Clifford Stine, Walter Strenge, and Karl Struss served on the Cinematography sub-committee along with Wallace Kelly of the Research Council and William Wade of Republic Studios.

The sub-committee for the Special Photography division consisted of A.S.C. members Farciot Edouart, Paul Eagler, John Fulton, Don Glouner, and Hans Koenekamp; also A. Arnold Gillespie, Jack Glass, Ray Kellogg, Cecil Love, Sid Lund and Ellis Thackery.

One or two highlights of the Awards presentation ceremony are worth mentioning: The two awards won by "The Quiet Man" (direction and color cinematography) marked the first Oscars ever awarded a production under the banner of Republic Studios. Cecil B. DeMille, whose films in the past have always been big money-makers but who never received an Academy Award, finally came through a winner this year for "The Greatest Show on Earth." He also won the coveted Thalberg Memorial Award. John Ford, who won an Oscar for the direction of "The Quiet Man," became the first four-time Oscar winner among motion picture directors. END

ANSCO COLOR FILM

(Continued from Page 166)

In "The Wild North" pictorial grandeur is enhanced by a range of light-value contrasts in perfect color balance from the eye-dazzling highlights to the wealth of pictorial detail simultaneously visible in deep shadows. With film of such range of response, exterior color scenes need no longer appear as though photographed at high noon—flat and uninteresting; but producers can capture the flavor of time, locale and atmospheric and seasonal mood in the color medium. Color, that is, becomes a *dramatic* medium, to be treated as such by the more sensitive masters of movie-making.

Of direct importance to the projectionist in his own immediate responsibility is the fact that Ansco color film possesses the same consistently sharp focus as black-and-white; and comparable resolving power—the ability to separate and present small details.

These prints require no special projection technique. Color on the theatre screen is always at its best, however, when the projectionist gives adequate attention to the arc lamps to avoid faulty screen illumination resulting from discolored or uneven light; and, of course, when all projection gear in the light path is kept immaculately clean.

Ansco color prints are made on high-acetyl base of first quality and are, therefore, readily spliced with the same safety cements or double-purpose cements that give satisfactory results on black-and-white high acetyl-prints.

There are three main types of color film: (1) those that have color built into the photograph emulsion, and hence are exposed and printed photographically; (2) those that have the images stamped on the film by dye-soaked, relief-image matrix films, and (3) those that utilize chemical dye-toning of black-and-white

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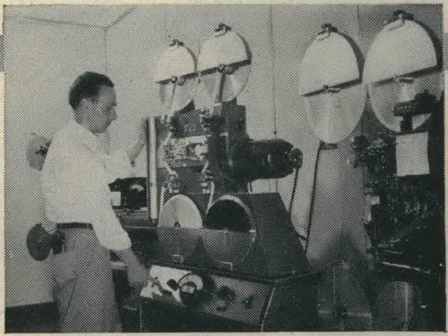

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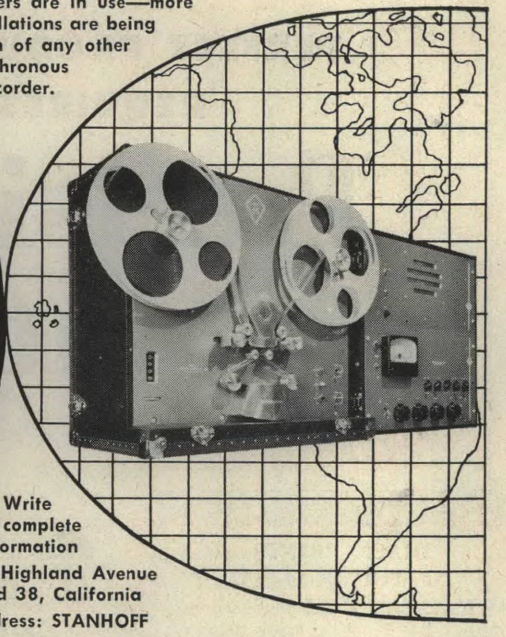

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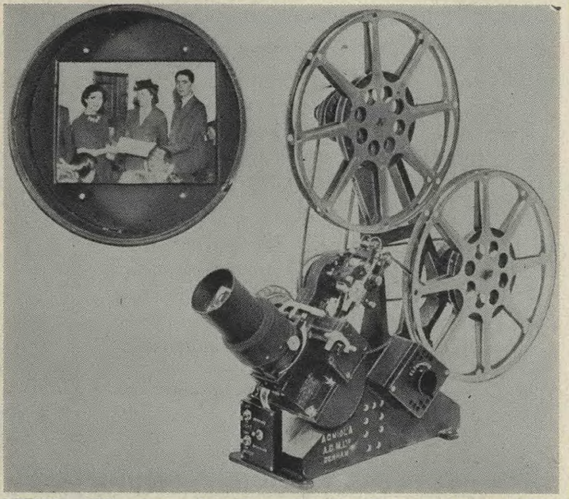

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emulsions, usually coated on both sides of the film-base.

Ansco color, the subject of this article, belongs to the first class. Its camera is an ordinary camera, without color filters or beam-splitting optical system. Only this and other "monopack" films can be exposed in ordinary single-aperture, single-magazine movie cameras, developed on ordinary black-and-white processing machines and printed on ordinary black-and-white printers. This simplicity is possible only when the color has been built into the emulsion during manufacture of the raw stock.

All natural-color photography involves some method of splitting up the vari-colored light of the scene to be photographed into three primary components, thus forming three separate images, or "color records." The light is *analyzed* in the camera into its components; while in the print these components are brought together again to *synthesize* the colors of the scene photographed.

The color-photographic analysis may be accomplished by simultaneously exposing three negatives, each through a separate color-filter, which, of course, requires a special beam-splitting camera having three picture-apertures, three sprocket-trains, *etc.;* or else through a simplified variation that permits two records to be made through a single aperture. In Ansco color, however, the color-analysis is accomplished inside the emulsion of the negative.

There are three color-receptors in the human eye. These are sensitive to *red, green* (a very slightly yellowish green), and *indigo* (violet-blue). When colored lights are mixed on a white screen, it is possible to reproduce *all* colors (including hueless white) by combining red, green, and indigo in various proportions. R, G, and I, therefore, are the *three primary colors.*

Painters, however, have a different set of "primary" colors which they use when mixing pigments. These are *cyan* (a slight greenish blue), *magenta* (a moderately purplish red), and *yellow* (very slightly greenish yellow). Actually, C, M, and Y are not primary colors but *complimentary* to the primaries.

In Ansco color negatives the light-sensitive emulsion contains built-in cyan, magenta and yellow "process colors" sensitized to the same spectral bands, or regions, to which the three color-receptors of the human eye are sensitive. Just why C, M, and Y dyes are used for building up the images on color film, instead of the true primaries R, G, and I, will become clear when the process is examined in detail.

To do this, let's forget Ansco and other color processes in commercial use, and invent one of our own. It may not have much practical value; but it will clarify the principle involved in making a natural-color print from the three color records. Suppose three negatives are exposed in a beam-splitting, 3-aperture color camera. These color negatives will develop black-and-white, of course, and all three will look exactly the same except that the densities of all colored objects photographed will be more or less different on each negative. In other words, the color values are "latent" in the three simultaneously exposed negatives.

We then make a black-and-white print from each negative. Now if the black-and-white image on the positive printed from the "red-record" negative is converted—by chemical toning, let's say—to *that color which ABSORBS red light from white light,* the image will then subtract red from all the areas where no red was present in the original scene. The color which is completely red-subtracting happens to be cyan!

Remember—we are not *tinting* our red-record positive all over with cyan; we are only *toning* the photographic image from a black silver image to a cyan image.

The same idea is carried out with the other two positives. The silver image on the film printed from the green-record negative will be toned to a magenta image because magenta absorbs all green. And the image printed from the indigo-record negative will be toned yellow.

We now have three very pretty positives, one with cyan pictures, one with magenta pictures, and one with yellow pictures. But still no natural-color pictures. How can we get them?

Place the three positives one over the other in exact registration and glue them together so they won't slip out of line—that's all we have to do. Each process color (C, M, or Y) will subtract its proper primary color (R, G, or I) from the white light of the projector, and lo! we obtain a picture in perfect natural color. Now three thicknesses of film glued together admittedly might be too bulky for the smoothest projection results; so the best commercial processes superimpose all three colors (C, M, and Y) in one coating of emulsion.

In imbibition-process color films the image is built up in three printings on a single film. In Ansco color films there are three very thin color-sensitive and color-forming emulsions coated on one side of the film-base. The total thickness of the Ansco color multilayer emulsion "pack" is not appreciably greater than that of regular black-and-white emulsion.

1. *The Indigo-Sensitive Layer.* The Ansco color multilayer emulsion is surfaced by a thin layer of glossy gelatine which protects the emulsion from accidental scratching. Directly underneath this invisible protective coating is a lay-

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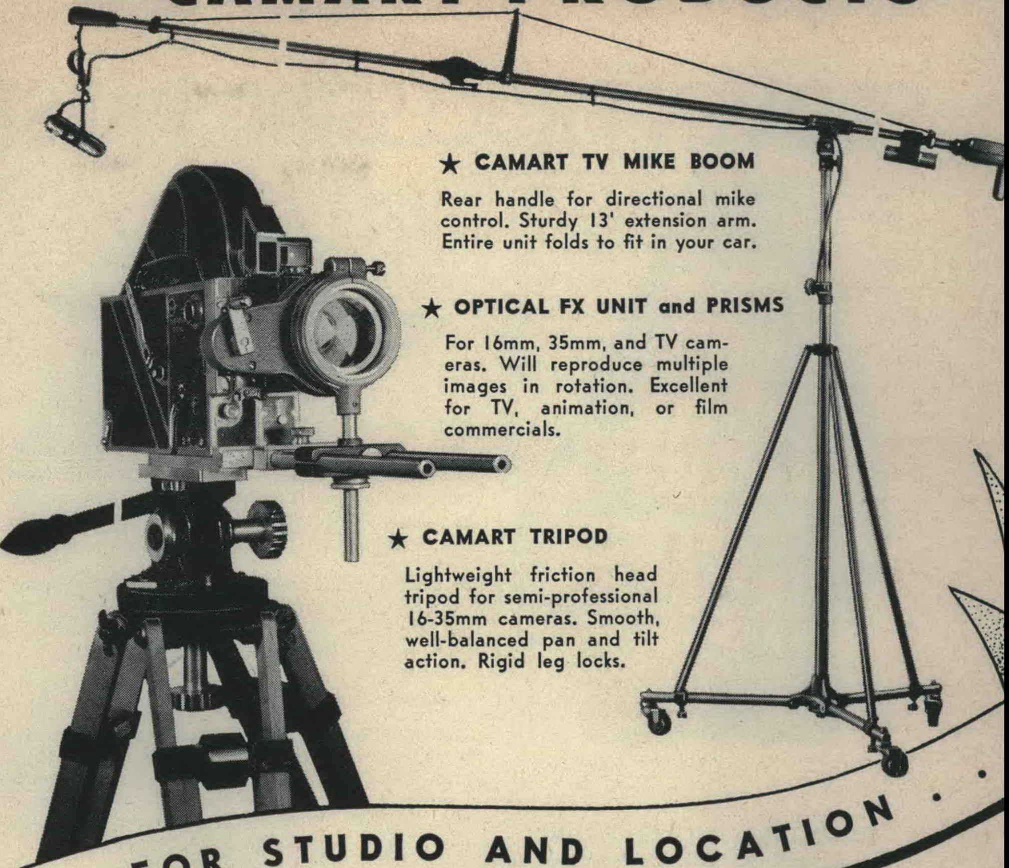

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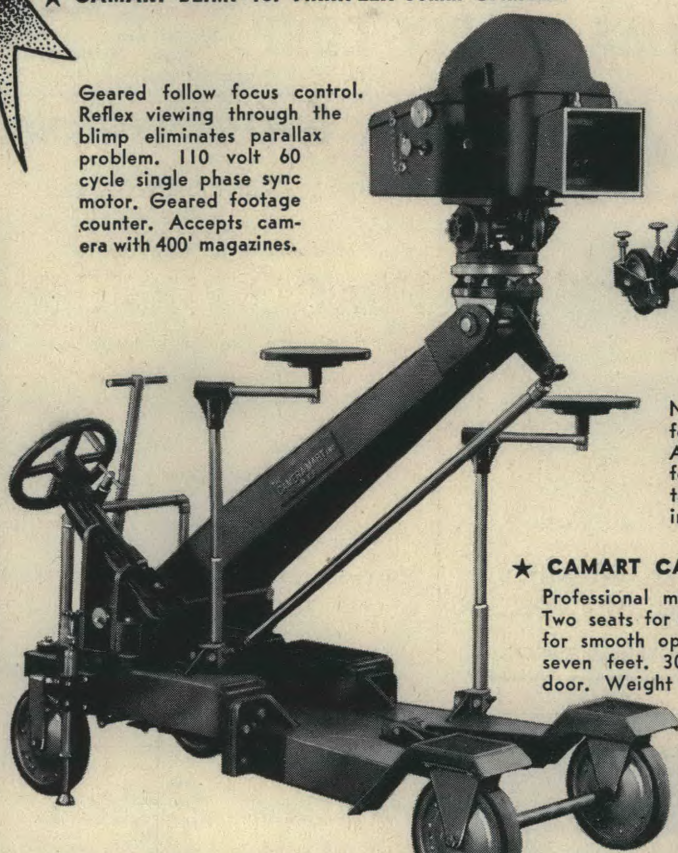

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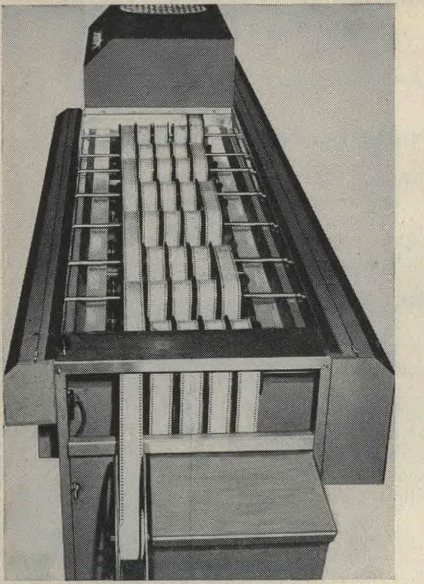

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er of photo emulsion which is affected only by indigo-violet light, and does not respond to green or red. This emulsion, therefore, constitutes the indigo record.

Below the indigo-sensitive emulsion is a yellow *filter-layer* which screens indigo light from the two emulsions which lie below it. The deep yellow color of this gelatine layer is produced by colloidal silver—dispersed silver grains much smaller than those in a black or gray silver image. Red and green light pass practically unimpeded through this filter-layer, since yellow represents white light from which indigo rays have been removed (leaving red and green).

2. *The Green-Sensitive Layer.* Under the filter-layer lies an emulsion which is sensitive to both green and indigo light. Indigo light, however, is prevented from reaching this emulsion by the yellow filter-layer. This emulsion, accordingly, photographs only green light, and is known as the green record.

3. *The Red-Sensitive Layer.* Under the green-recording emulsion there is a special emulsion which is "blind" to green, but photographs red light. This emulsion is, of course, also protected from indigo-blue by the yellow filter layer. It therefore constitutes the red record.

The red-sensitive emulsion is coated on the clear high-acetyl safety-film base. But coated on the non-emulsion side of the base is a dark "antihalation" coating which prevents the light passing through to the back of the film during exposure in camera or printer; from being reflected and scattered into the light-sensitive emulsions, spoiling the image with glare-spots and halos. All camera film, whether color or black-and-white, has an antihalation backing which washes off when the film is developed.)

A "pack" of three microscopically thin emulsions, each sensitive to a different primary spectrum-color, is not enough, by itself, to produce a picture in natural color. If this were all there were to Ansco color film, it would behave exactly like black-and-white film even though latent color values reside in the three sensitive layers. Something more must be put into the film to transform color values into actual color that we can see. Ansco must "tone" the three sensitive layers to their latent color values of cyan, magenta, and yellow. To accomplish this, there are added special chemicals called "color-formers," a yellow color-former being incorporated in the indigo-sensitive emulsion, a magenta color-former in the green, and a cyan color-former in the red-sensitive layer. The color-formers have no color of their own, but they react, during development of the film, with "dye-couplers" in the developing solution to form the desired yellow, magenta, and cyan dyes.

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in color to the primaries recorded, the new Ansco color film is called a multilayer *complementary-color* film. The triple-layer cyan, magenta, and yellow images are entirely equivalent to the three glued-together positives we imagined a few paragraphs back, but thin enough throughout their triple ply for accurate focusing and flexible enough for practical, ordinary projection. And they are characterized by extreme stability of the dye images.

Ansco Color Negative Film Type 843 is exposed in the usual way in any 35-mm motion-picture camera. This camera film is intended for exposure with daylight-quality light-sources, although overall color balance on a movie set is not critical. It is only necessary to have all light sources—low-intensity arcs, high-intensity arcs, and incandescent lamps—balanced to the same color temperature except where special effects are desired. Standard filters used in all interior color filming enable a proper balance to be obtained.

The exposed camera film is developed in the same manner as black-and-white film, the only addition to the process being a bleach bath and a second "fix."

In a regular black-and-white negative all tones are reveresd—shadows and dark objects in the photographed scene coming out light on the negative, and the highlights coming out dark. So also with Ansco color negative film. And because *all* photographic values are reversed, the colors of the photographed scene are reversed to their complementary colors—blue sky appearing as orange, red blood as pale blue-green, *etc.* Ansco color negative, therefore, is a true negative, and from it Ansco color positives are made.

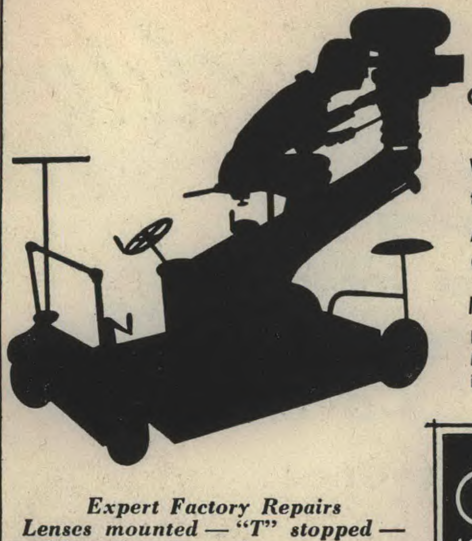
So far nothing has been said of the sound-track. Sound is not recorded directly on the picture negative in professional movie-making, but on sound-recording stock by a recording head driven in synchronism with the picture cameras. The original sound recordings may have either photographic or magnetic tracks, magnetic recording being in favor at the present time because of its high fidelity and low noise-level.

Whichever recording method is used, independently recorded sound-effects and background-music tracks are properly "dubbed" into the principal record of the dialogue and sounds that originated on the set during shooting. Sound mixing is accomplished by means of an apparatus which has several soundheads (reproducers) feeding their combined output into a single recorder. The chief recordist sits at the console of the mixer like an organist and manipulates the volume controls which regulate the strength of sound from all the simultaneously-playing tracks. The resultant, or mixed, sound is recorded photographically on a single film.

This film is the master sound negative from which a master sound positive and a number of duplicate sound negatives, used for printing the soundtrack on the theatre-release prints, are derived by contact-printings.

This brings us to the matter of making Ansco color soundfilm prints for theatre projection. Now, release prints are only very rarely made from the original camera negatives, not even in black-and-white work. As is the case with the soundtrack recording, a number of duplicate negatives are prepared for printing the release positives. The preparation of these picture dupe negatives is an interesting process, and provides a peep behind the scenes of professional film make-up.

Just as the rolls of processed negative film for a black-and-white movie must be harmonized and balanced for consistent density and contrast in the release prints, so also must the negatives for a natural-color movie be photographically adjusted. And with color film there is the additional problem of color-balance. (That is, the overall tone of the scenes must not vary in tint except for desired pictorial and dramatic effects. The color



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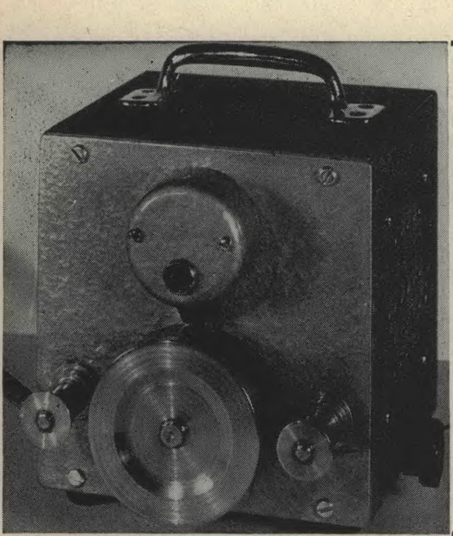

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must be balanced to give the most natural results with the white light of the projection arc.)

These problems can be solved very simply and satisfactorily.

"But why," it may be asked, "is it necessary to make duplicate negatives from which to print the release positives? Why not print them directly from the original camera negatives, making all light and color-balance corrections during printing?"

This can be, and is, done on occasion; but professional productions involve optical effects which are not present in the camera negatives. These include fades, dissolves, wipes, photomontages, multiple exposures, travelling-mask shots, etc. It is considered unwise to cut these optical effects into the original camera negative, a mighty precious commodity.

Then, too, it would be extremely foolhardy to risk damage to the original negative through the routine printing of several hundred release positives. In fact, in order to speed up the work and maintain good picture and sound quality, it is mandatory to make a dozen or so duplicate negatives, some of which are sent to foreign countries for release-printing overseas.

From the original Ansco Color Type 843 Camera Negative Film a master positive film is printed. This may either be in full color by printing on Ansco Color Type 848 Positive Motion-Picture Printing Film, or (as is preferred in professional practice) the master positive is made in the form of three black-and-white positives, one for each primary color.

The development process for Ansco color release prints is the same for the negative, except that special treatment is given to the soundtrack in order to obtain a regular silver-image track.

Interesting is the fact that the soundtrack may be printed in any one, any two, or all three of the emulsion layers of Ansco color film. If, for example, an indigo filter be placed between the light and the sound negative in the printer, the track will print only in the top indigo-sensitive emulsion. If the filter be cyan, transmitting both indigo and green light, the track will print in both the top and middle layers. With no filter all three layers will print.

The top indigo-sensitive layer was used for printing the soundtrack of MGM's "The Wild North." This layer has the finest grain and does not require any electrical high-frequency equalization to equal the frequency-response characteristics of black-and-white prints. Other laboratories, however, are obtaining good results with 2- and 3-layer tracks.

This description concerns the new Ansco color film as it is being made and used at the present time—a fact to bear

in mind in view of continued progress in the popular and rapidly expanding process of making motion pictures in full natural color. Further improvements are inevitable. It is quite possible, for example, that the yellow filter-layer of colloidal silver may soon be eliminated.
END

BOOM SHOTS

(Continued from Page 161)

in which it is decided how action patterns must be staged to put across the dramatic values of the script—and, secondly, how the camera can become an *active* force in making these patterns count for fullest visual effect.

(3) *To establish a spacial relationship between separate elements of the scene.*—Sometimes, when the structure of a large set is on the intricate side, it becomes a genuine problem to keep the screen geography straight in the minds of the audience. Unless the spacial relationship of the various physical areas is first made clear by some comprehensive establishing shot, direct cuts from one segment of the locale to another may leave the audience confused as to where a particular bit of action is occuring.

Obviously, the best way to dispel such doubt is by means of a well-planned boom shot. Skillfully executed, such a shot becomes more than a mere Cook's tour with the camera; it can effectively set the atmosphere for the entire sequence.

Ideally, such a shot should begin at maximum height and with the widest practical angle, in order to establish as much of the set as possible. With the boom descending to eye level, the camera then picks out a leading character and follows him from one part of the set to another. Or perhaps it will follow several subordinate characters, picking up one and following him for a distance, then leaving him to concentrate on another. In this way, set geography is established, an atmosphere or mood is created, and characters are introduced.

(4) *To focus attention sharply on one part of a wide composition.*—The camera is a selective mechanism. With it one can pick and choose what one wants to show, and ignore what need not be shown. Moreover, this selectivity is given quite a lot of emphasis by the choice of angle used to show any one element in the scene—it being generally recognized that the *closeup* is the most emphatic shot.

Very often it is dramatically important to establish a general situation, then

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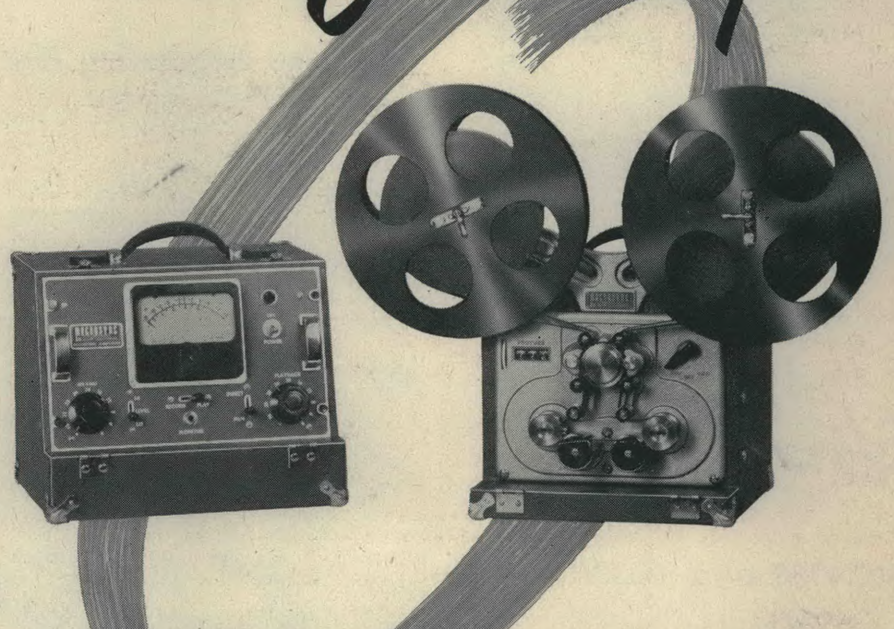

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narrow down to a single small element of that situation. An outstanding example of this effect is a scene from the film "Notorious," produced by Alfred Hitchcock several years ago. In the earlier scenes of this picture the key to a wine cellar had been established as a prop most vital to the plot.

The scene mentioned began with a very high long shot of a ballroom where a lavish party is in progress. The camera is aimed toward the whirling figures of the dancers—then it booms rapidly down to an extreme close-up of the key held in the hand of the main character. This change of angle from an establishing long shot to a screen-filling close-up of a prop 2 inches long was most effective—and it could not have been accomplished except by means of a camera boom in the hands of highly skilled technicians.

In the film "Citizen Kane," photographed by the late Gregg Toland, A.S.C., with what is generally conceded to have been a revolutionary camera approach—there is a famous scene in which the camera establishes an opera

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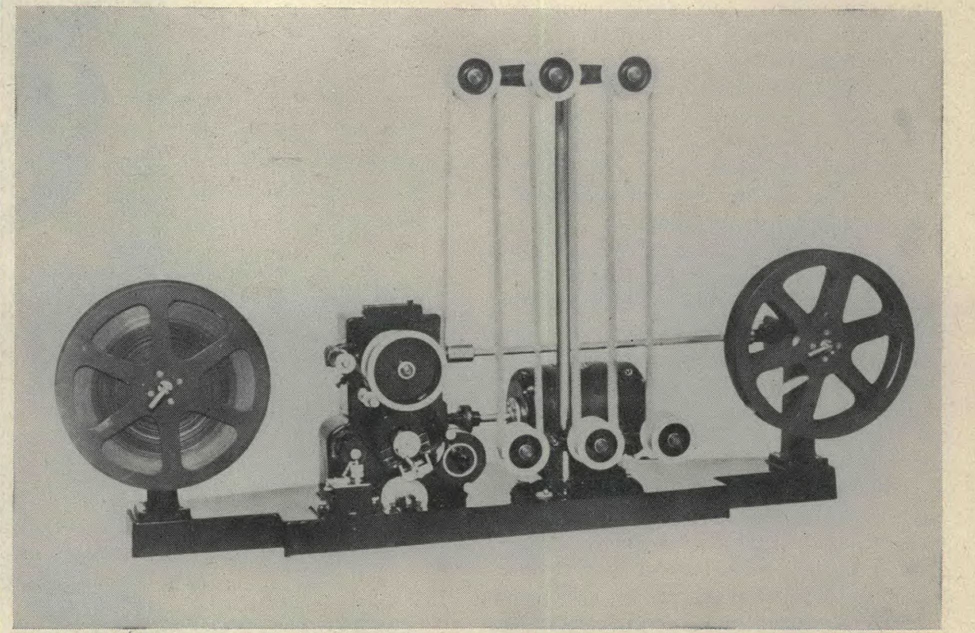
Edge Numbering Machine For 16-35mm Films



S.O.S. visible edge numbering machine which is available for either 16mm or 35mm film, has capacity of 2000 ft. film, speed 50 ft. per minute.

THE WIDESPREAD use of films in Television, and more recently the use of multiple films in 3-dimensional motion pictures make film edge numbering almost mandatory. To fill this need S.O.S. Cinema Supply Corp., New York, has placed on the market the S.O.S. Visible Edge Film Numbering Machine, for both 16mm and 35mm film.

The various units of this device are mounted on a cast aluminum base. The film movement is non-intermittent. Numbering is effected by an automatically operated metal numbering block which prints the footage number on the film at each revolution of the sprocket. The film subsequently passes over a series of drying rollers and elevators before being rewound. A bristle brush and felt pad are fitted to keep the numbering block clean.

A central lubricating point is provided for all working parts of the main mechanism. Film capacity of the machine is 2000 ft. and the printing speed is 50 ft. per minute. The 16mm model prints between the perforations only but the 35mm model can be supplied to print between the perforations or on the outside edge.

The standard numbering block is for 6 figures either with 2 handset and 4 automatic figure wheels, or 3 handset and 3 automatic. Both negative and positive films can be numbered. Power supply coupling is by a special plug, suitable to take flexible tubing; also a built-in switch is provided. The finish is bright black enamel and polished chromium plate.

Film laboratories in Hollywood have been using the prototype of this machine for many years, while most recent purchasers are Movielab Laboratories Inc., New York; U.S. Air Force, Wright Patterson Field, Ohio; Southwest Film Laboratory Inc., Dallas, Texas; and U.S. Photographic Equipment Corp., Brooklyn, N. Y.

singer making her debut on stage. It then goes booming up through the flies of the gallery, coming to rest on a stagehand squatting on a catwalk who holds his nose in an eloquent gesture of disapproval.

Similarly, in the current M-G-M release, "The Bad and the Beautiful,"—a picture filled with effective boom shots—the camera begins on a shot of an actress playing a scene on the sound stage. It then booms upward past a huge crew of technicians and stage hands, coming to rest on a close shot of an electrician high on a parallel who smiles his approval of the scene.

(5) *To help add movement to a basically static situation.*—It is in this application that the boom shot either does wonders or goes completely haywire. Actually, the odds are against it—for valid cinematic movement should stem from a happy combination of script, direction and acting rather than from the physical mechanics of the screen medium.

Sir Laurence Olivier's filmnization of "Hamlet" is a prime example of a production in which boom shots were used both well and badly. On the credit side are the sequences in which the moving camera was coupled with broadly sweeping patterns of action to add genuine force and dash to Shakespeare's literary prose.

Less successful, however, were the sequences in which the camera wound its solitary way up the staircases and ramparts of the gloomy castle, never encountering a single human being. A bit of this might have gone far to create a mood of impending disaster—but so much of this type of camera meandering was used that the technique called attention to itself. The audience could almost see the operator riding the boom and skillfully managing to keep an imaginary subject centered in the frame.

On the other hand, no one would quarrel with Olivier's use of the camera boom to capture the full sweep of the Battle of Agincourt in his craftsmanlike production of "Henry V." Here, as in the Battle of the Tourelles sequence in "Joan of Arc," the boom helped translate into kinetic action sequences which seemed rather static and academic on paper—and which might have remained so on film, as well.

(6) *To tie together several separate compositions or set-ups into a single scene.*—Here, again, is a powerful application of the boom shot when tailored to complement patterns of action worked out by the director. In the dramatic film such shots concentrate audience attention by taking the viewer right along with the characters—moving in and out, up and down, as the shifting pattern of action dictates.

However, it is in the musical film

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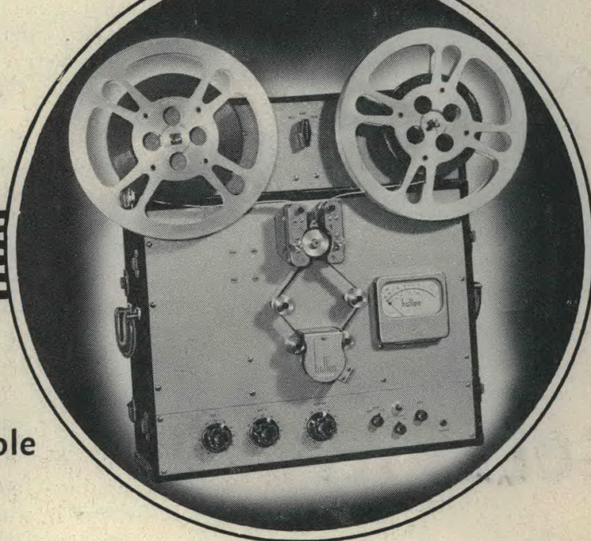

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that this type of boom shot really comes into its own. The trend started back in the early 30's, when the spectacular musical first came into vogue. At that time cameramen went wild with the boom—swooping and soaring, zooming in and out and even sideways until the audience was dizzy. In the ensuing years these techniques have become refined until we now have the smooth type of boom shots seen in musicals like "Singin' In The Rain," and magnificent ballet sequences such as those in "The Red Shoes" and "An American in Paris."

Through the years technological developments have kept pace with the visual demands of the industry in creating boom effects. An outstanding example is the "amphibious" boom developed at M-G-M to film the Esther Williams pictures. This is the famous mechanism that can soar about in the air and suddenly dive underwater for continuous filming of a wet-and-dry production number.

The latest development from the camera department of the same studio is a new self-propelled automotive camera boom with the camera operator in complete control of all panning and elevating moves.

The 18-foot arm, mounted on a conical hydraulic turret, may be operated in regular manual fashion from the rear of the boom, or by means of levers from the ground. Every move from ground level to 25-foot elevation is controlled by the camera operator through a pistol grip similar to that operating tank turrets and aerial gunnery mounts.

Designed by Gil Casper of the M-G-M transportation department and his partner, Ray Van, the boom has a road speed of 60 miles per hour, eliminating previous moving by truck. A six-wheel drive assures access to rugged locations with a special self-levelling device built in to compensate for uneven ground.

The new boom is being used for the first time in the Texas location shooting of the Dore Schary production, "Take The High Ground."

ANIMATION STAND

(Continued from Page 162)

tion. We did this because we were running into more and more work where it was necessary to move components of the art. Cementing, stapling or other fastening methods were impractical and sometimes impossible.

To be objective about it, the vertical track arrangement was a dismal failure. We ran into age-old laws of physics that prevented us from ever running the camera up or down without correcting for the change in angle of the counterweight wire. The net result was that the device was absolutely useless for any zooms, unless they were single framed.

Sometimes failure teaches more than success and, if nothing else, we had learned that the prime requirements of any vertical animation stand are rigidity, smoothness of operation, rigidity, positive control and *rigidity!* The one thing you don't have to have is portability. Once in position, an animation stand is usually there to stay.

At this point, we decided to bypass any more makeshift devices, including such temptations as lathebeds, and go ahead and draw up our own plans for a genuine piece of equipment built especially for the job.

We took our sketches to the Valor Tool & Machine Company in Dearborn, Michigan. Admittedly, we are fortunate in being located close to what must be the center of the machine tool industry, and we were the benefactors of much good help and advice by engineers who were more than ordinarily interested in our problem. Nevertheless, the ultimate design is simple in nature and the chances are very good of its being duplicated at almost any well-equipped machine shop in the country.

Basically, the stand consists of two six foot precision-ground steel rods sunk in a heavy rectangular base and joined at the top by a bar that supports two pulleys. A steel plate, drilled to carry a Hi-Hat, travels up and down these rods on four bronze sleeve bearings. A strong flexible steel cable is attached to the plate and goes over the pulleys to a counterweight.

Now for the details: the camera plate is moved up and down on the rods by turning a twelve inch wheel. Its axle carries a small gear which engages the teeth of a rack. This geared drive gives positive control of the camera movement and provides for a great range of speeds. Small rubber wedges placed in the vertical bar can be used to stop the travel of the camera at a predetermined distance from the artwork table. The artwork table itself is also geared so that it can be raised or lowered to suit the convenience of the operator. The table is attached by diagonal braces to a steel plate similar to the camera plate. Both the camera plate and the table plate can be locked in any position by tightening knurled screws which press bronze braking blocks against the rods. The plain artwork board shown can be interchanged with a board with standard animation registration pins and hinged glass and a cutthrough for a light box. The base is aluminum and equipped with three heavy-duty casters. Four men cannot lift this machine off the ground, so the casters were necessary in order to move it at all. Four levelling screws raise the base so that the casters clear the floor.

The entire unit can be completely disassembled with standard tools. Each part is code-numbered to match it up with the adjoining part. Many of the components are stock items. The shafting, the control wheels, the rack, the pulleys, wheels and many other parts are available ready-made. It might be noted that the pulley pins have to be of hardened and precision ground dowel. Our first pulley pins burred up because of the great weight that they carry.

We are frank to admit that there is room for improvement. One of the men at the machine shop bet that we would put an electric motor drive on the camera plate within the next six months. We are investigating mechanical or electric follow focus mechanism. Another refinement being considered is a geared left and right movement for both the camera plate and the artwork surface. So far, however, we have discovered only one serious error in our planning. We new conclude that the raise and lower feature of the table is an unnecessary luxury. It added to both the weight and the cost. We feel, nevertheless, that we've come up with a handsome, simple working tool that will soon pay for itself in hours saved and quality of work delivered.

The total cost of duplicating this stand will undoubtedly vary from one section of the country to another. Barring any major additions to the basic design, however, it would be safe to say that it should not exceed fifteen hundred dollars. We believe that this is not too much to pay for a unit that is a necessity for the professsional producer and which performs many of the functions of equipment that costs many times that figure.

SET, SIGHT, AND SHOOT!

(Continued from Page 175)

scratchproof grey crinkle enamel with polished aluminum trim. The gears of the mechanism, which is governor controlled, are hobbed (machine cut) throughout.

All in all, it's a handy palm-sized 35 ounces of camera with a small-size price tag. This is just $49.95 including Federal excise tax. If you'd like a top grain London tan cowhide sheath case for the camera, that'll cost you an additional $4.95.

The "220" makes its debut the first of April in camera stores throughout the country. END

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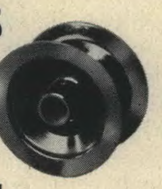

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FILMING "RETURN TO PARADISE"

(Continued from Page 157)

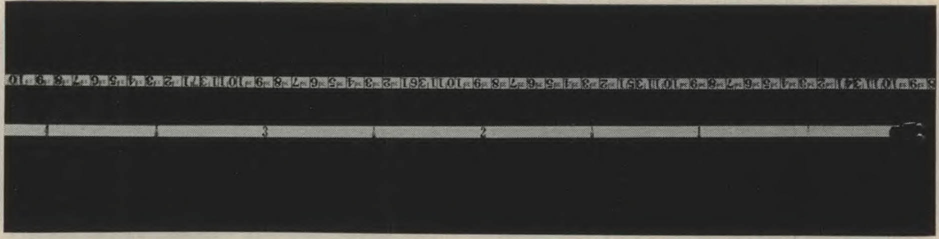
too heavy to be practical. Search for lighter lumber revealed a supply of Oregon pine planks; this the company purchased and from it Hanks' crew assembled new dolly tracks. In cutting the planks to the required length, one-foot lengths were trimmed and put aside for wedges or "cribbing." While the carpenters were busy putting the tracks together, the company chef came upon the blocks and gathered them up for firewood.

Because of the dense tropical forestation on Samoa, the use of booster lights was a must for almost every exterior shot. One of the unique things about this assignment was the fact that despite its general outdoors story line, artificial lighting made up part or all of the illumination for every scene, indoors and out. At first it was considered that daylight could be used in shooting some scenes inside the native dwellings or fales, which have roofs but no permanent sides, except for flexible mats which are kept rolled up most of the time. The roofs extend down to within five feet of the ground, shutting out much of the direct daylight that might otherwise reach the interior. For shooting scenes in the fales, artificial illumination was employed entirely. "We brought along no 'Brutes,' said Hoch, so we had the men convert 170's to take the larger 'Brute' carbons. The converted lamps worked quite satisfactory, as they also did when we were shooting interiors in the dance hall, grocery store, and shipping office in Apia. Here we used arcs almost altogether, drawing current from the lone generator which had been shipped along with our camera equipment."

There was an interesting sequence of shots to be filmed in rain, but as natural rainfall could not be counted upon to occur when needed nor to give the desired pictorial effect, the company resorted to artificial rain. This was quite a problem away from the studio where there is special rain-making equipment available. But the resourceful technicians put together several lengths of pipe, found a water pump, and contrived a rain-making machine that utilized water pumped from the sea.

This operation introduced a brand new set of problems—keeping the salt water and spray away from the camera. Despite all the covering that could be

Improved Focusing Tape



BOTTOM TAPE with marks every 6 inches replaces old-style tape measures used by camera assistants in measuring distance for focus. New tape, minus clutter of inch marks, is easier to read.

THE STANDARD measuring tape, com,monly used by cameramen or assistants to measure distances in setting lens focus, is just one of the many tools of the cinematographer that too long has been considered "good enough." But in this day of specialized tools and efficiency, there is need for a tape more suitable to the cinematographer's needs.

The standard tape measure reads numerals from right to left, gives us a conglomeration of upside down numerals and far too many intermediae markings which are confusing. Moreover, there should be measure marks on both sides of the tape. These findings led me to design a tape more suitable to my use.

Beginning with a blank 50-foot tape, which I purchased on special order from a manufacturer, I rubber-stamped markings at every half-foot, as shown in illustration above. Foot and half-foot figures are quite adequate when it comes to measuring distances for photography.

The marks are right side up and on both sides of the tape. I used steel tape because fabric tapes tend to shrink and soon frays out from excessive use. Beginning at the tip, marks were placed every six inches up to the 25-foot mark; then I started over again at ½, 1, ½, 2, etc., for the second 25 feet of the tape. The tape was then lacquered to protect the rubber-stamped markings.

—Maury Kains, Los Angeles.

provided, the camera suffered some ill-effects. Salt water and corrosion took their toll. The rackover mechanism tightened up, the pan and tilt began to stick, and the company soon was paying the price in damaged equipment of shooting in the tropics with camera equipment designed essentially for the sound stage.

Another thing Hoch and his crew learned about salt water and salt laden air was the disasterous effect they had on reflectors surfaced with gold leaf. For a number of scenes filmed in the lagoon, native assistants waded out into the surf to hold reflectors above their heads. Invariably some of the men would tire and let drop the reflectors into the water. The effect of the salt water on the gold leaf was almost instantaneous—the leaf would tarnish or turn dark brown on contact with the salt water.

The aerial shots of the plateaus on Fiji, which comprised the introductory sequence of the production and which pictured the group of islands surrounding Samoa, were shot during the last two days of the company's stay at the island. Filming began on Sunday, when all local stores were closed, and Hoch soon found himself in need of supplies necessary to begin shooting. His chief problem was a suitable camera support within the plane that was to take him aloft for the long shots. As before, resourceful natives came to the rescue. At the local airport, an attendant rustled up a 30-foot length of clothesline, several two-by-fours, plus a quantity of old salvaged nails, which had to be straightened out before they could be used. But the camera platform was quickly constructed and the door of the plane removed to permit shooting.

Movement of the camera, however, was quite restricted; there was no room to pan or tilt. But the pilot solved the problem in a unique way. "He seemed to have an uncanny grasp of the mechanics of cinematography," said Hoch, "and suggested that we let him do the panning and tilting for us by maneuvering the plane. When we were in the air and were ready to shoot a scene of this kind, on a given signal the pilot would bank the plane or line it up for a straight aerial dolly shot with remarkable precision."

Perhaps the real headache for the company occurred on the next to last day of shooting. The rainy season had set in. Matautu is located on the wet side of the island. Between the wet and dry sides there is a difference of approximately 20 inches of rainfall per month. This meant the company had to move promptly to the dry side of the island in order to wind up the rest of the scenes. The wharves and piers the

(Continued on Page 191)

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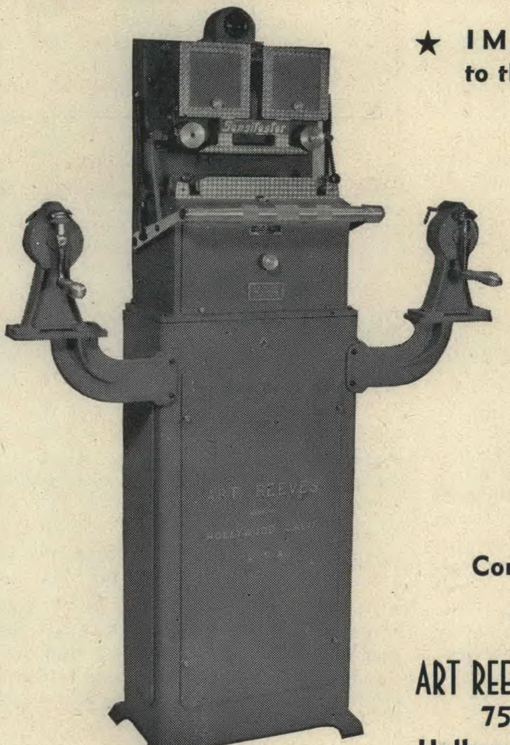

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Current Assignments of A.S.C. Members

Major film productions on which members of the American Society of Cinematographers were engaged as directors of photography during the past month.

★ ★ ★ ★

Allied Artists

• Harry Neumann, "Bowery Nights," with Leo Gorcey, Huntz Hall, Angela Greene, and The Bowery Boys. Edward Bernds, director.

Columbia

• Hal Mohr, "The Wild One," (Kramer Co.) with Marlon Brando, Mary Murphy, Lee Marvin, Peggy Maley, Yvonne Doughty. Laslo Benedek, director.

• Floyd Crosby, "The Man Who Lived Twice," (3-Dimension) with Edmond O'Brien and Audrey Totter. Lew Landers, director.

• Burnett Guffey, "From Here To Eternity," with Monegomery Clift, Burt Lancaster, Deborah Kerr, Frank Sinatra, Donna Reed. Fred Zinnemann, director.

• William Bradford, "Last Of The Pony Express," (Gene Autry Prod.) with Gene Autry and Smiley Burnette. George Archainbaud, director.

• Lester White, "Renegade Canyon," (Technicolor, 3-D) with John Derek. Ray Nazarro, director.

Metro-Goldwyn-Mayer

• George Folsey, "All The Brothers Were Valiant," (Technicolor) with Robert Taylor, Stewart Granger, Elizabeth Taylor, Betta St. John, James Whitmore, Keenan Wynn, and Kurt Kasznar. Richard Thorpe, director.

• Frederick Young, "Mogambo," (Technicolor) (Shooting in England and Africa) with Clark Gable, Ava Gardner, Grace Kelly, and Donald Sinden. John Ford, director.

• John Alton, "Take The High Ground," (AnscoColor) with Richard Widmark, Karl Malden, Jerome Courtland, Robert Arthur, Richard Brooks, director.

• Ray June, "Easy To Love," (Technicolor) with Esther Williams, Van Johnson, Tony Martin, and John Bromfield. Charles Walters, director.

• Paul Vogel, "Arena," (3-D, AnscoColor) with Gig Young, Robert Horton, Polly Bergen, and Jean Hagen. Richard Fleischer, director.

• Harold Lipstein, "Big Leaguer," with Edw. G. Robinson, Vera-Ellen, Jeff Richards, William Campbell, and Richard Jaeckel. Robert Aldrich, director.

• Joseph Ruttenberg, "The Great Diamond Robbery," with Red Skelton, Cara Williams, Dorothy Stickney, Kurt Kasznar, and James Whitmore. Robert Z. Leonard, director.

Paramount

• Loyal Griggs, "Elephant Walk," (Technicolor) (Shooting in Ceylon) with Vivien Leigh, Dana Andrews, Peter Finch, Abraham Sofaer, and Mylee Haulani. William Dieterle, director.

• Lionel Lindon, "Those Sisters From Seattle," (Pine Thomas Prod., in Paravision 3-D, Technicolor) with Rhonda Fleming, Gene Barry, Agnes Moorehead, Jean Parker, Guy Mitchell, Teresa Brewer, The Bell Sisters, Roscoe Ates. Lewis R. Foster, director.

R.K.O.

• William Snyder, "Second Chance," with Linda Darnell and Robert Mitchum. Rudy Mate, director.

AMERICAN SOCIETY OF CINEMATOGRAPHERS

FOUNDED January 8, 1919, The American Society of Cinematographers is composed of the leading directors of photography in the Hollywood motion picture studios. Its membership also includes nonresident cinematographers and cinematographers in foreign lands. Membership is by invitation only.

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• Nick Musuraca, "Arizona Outpost," with Dale Robertson and Arthur Hunnicutt. Alfred Werker, director.

Republic

• John Russell, "The Champ From Brooklyn," with Alex Nicol, Audrey Totter, Charles Winninger, Hope Emerson, Joseph Weisman, Jess White, Grant Withers, and Eddie Waller. William A. Seiter, director.

20th Century-Fox

• Leo Tover, "Blueprint For Murder," with Joseph Cotten, Jean Peters, and Gary Merrill. Andrew L. Stone, director.

• Lucien Ballard, "Inferno," (3-D; Technicolor) with Robert Ryan, William Lundigan, and Rhonda Fleming. Roy Baker, director.

• Leon Shamroy, "The Robe," (CinemaScope, Technicolor) with Richard Burton, Jean Simmons, Victor Mature, Michael Rennie, Dean Jagger, Betta St. John, Jeff Morrow, Michael Ansara, and Nicolas Koster. Henry Koster, director.

• Harry Jackson, "The Kid From Left Field," (3-D) with Dan Dailey and Anne Bancroft. Harmon Jones, director.

• Joe MacDonald, "How To Marry A Millionaire," (Cinemascope, Technicolor) with Betty Grable, Marilyn Monroe, William Powell, Lauren Bacall, Rory Calhoun, David Wayne, and Cameron Mitchell. Jean Negulesco, director.

• Milton Krasner, "Vicki," with Jeanne Crain, Jean Peters, Elliot Reid, Casey Adams, and Richard Boone. Harry Horner, director.

Universal-International

• Cliff Stine, "It Came From Outer Space," (3-D) with Richard Carlson, Barbara Rush, and Charles Drake. Jack Arnol, director.

• Irving Glassberg, "Walkin' My Baby Back Home," (Technicolor) with Donald O'Connor, Janet Leigh, Buddy Hackett, and Scat Man Crothers. Lloyd Bacon, director.

• Maury Gertsman, "Back To God's Country," (Technicolor) with Rock Hudson, Steve Cochran, and Hugh O'Brian. Joseph Pevney, director.

• William Daniels, "Brady's Bunch," with Maureen O'Hara, Jeff Chandler, Susan Ball, John McIntire, and Charles Drake. George Sherman, director.

• Russell Metty, "Three Were Renegades," (Technicolor) with Audie Murphy, Lori Nelson, Russell Johnson, and Madge Meredith. Nathan Juran, director.

Warner Brothers

• Wilfred Cline, "Calamity Jane," (Technicolor) with Doris Day, Howard Keel, Allyn McLerie, Dick Wesson, and Philip Carey. David Butler, director.

• Ed Dupar, "The Eddie Cantor Story," (Technicolor) with Keefe Brasselle, Marilyn Erskine, Aline McMahon, Gerald Mohr, Arthur Franz, Will Rogers, Jr., and William Forrest. Alfred E. Green, director.

• Ted McCord, "Sulu Sea," with Burt Lancaster, Virginia Mayo, and Hayden Rork. Arthur Lubin, director.

• Peverell Marley, "House of Wax," (3-D, WarnerColor) with Vincent Price, Frank Lovejoy, Phyllis Kirk, Paul Picerni, Carolyn Jones. Andre de Toth, director.

• Carl Guthrie, "Three Sailors and a Girl," (Technicolor) with Jane Powell, Gordon McRae, Gene Nelson, Sam Levene, and Jack Leonard. Roy Del Ruth, director.

• Archie Stout, "Island In The Sky," (Wayne-Fellows) with Lloyd Nolan, Andy Devine, Walter Abel. William A. Wellman, director.

• Sidney Hickox, "Blowing Wild," (United Pics.) with Gary Cooper, Barbara Stanwyck, Ruth Roman, and Anthony Quinn. Hugo Fregonese, director.

• Robert Burks, "The Boy From Oklahoma," (WarnerColor) with Will Rogers, Jr., Nancy Olson, Lon Chaney, Jr., Wally Ford. Michael Curtiz, director.

• Peverell Marley, "The Burning Arrow," (3-D, WarnerColor) with Guy Madison, Frank Lovejoy, and Vera Miles. Gordon Douglas, director.

Independent

• Ernest Laszlo, "The Moon Is Blue," (Preminger-Herbert Prod.) with William Holden, David Niven, Maggie McNamara, Dawn Addams, Tom Tully, and Fortunio Bonanova. Otto Preminger, director.

- James Wong Howe, "Jennifer," (Threefellows Prods.) with Ida Lupino and Howard Duff. Bernard Girard, director.
- Joseph Biroc, "Donovan's Brain," (Dowling Prods.) with Lew Ayers, Gene Evans, and Nancy Davis. Felix Feist, director.
- John Boyle, "The 3-D Follies," (Sol Lesser Prods.) (3-D, Eastman Color). William Menzies, director.

"RETURN TO PARADISE"

(Continued from Page 189)

company had erected plus the boat used in the picture by Gary Cooper had to be moved to the other side of the island. Each hour's delay increased the hazards for the company, not only from the standpoint of completing the picture but also because plane passage had been booked; and to have missed the plane would have meant being stranded on the island for another several weeks.

Both crew and the natives worked feverishly to load and move equipment, props, etc. At the last moment, as the boat was being loaded onto a truck, the sails were found missing. Some of the natives were suspected. Whether it was their idea of a joke, or a plain case of theft, the results were the same for the company — exasperation mixed with frustration. Producer Warth called the island's 44 chiefs together and laid down the law: the sails must be produced promptly, he said, "or else." The "or else" meant reporting the incident to the Apian police. The chiefs became indignant but promised to do what they could to turn them up.

Hoch and producer Warth never expected to see the sails again. They arranged to have a new set made without delay. The town's lone sailmaker, a 70-year old native was routed out of bed, given the necessary sail cloth, and put to work tailoring a new set of sails. working in light furnished by 15 Coleman lanterns supplied by the film company's prop man.

In the meantime, Hoch was virtually biting his nails trying to figure out how he would "age" the sails to make them match the missing ones. Luckily, this never had to be done. At 4 the next morning, the chiefs returned to the village with the missing sails. Tossing the canvas on the ground, one of the old fellows came forward and handed Hoch a bill for services: 5 pounds for bus hire plus 2 shillings per hour for 5 hours for each of his 44 men.

"It was a happy finale," said Hoch. "It proved that the Samoan natives are not only canny business men but also have a sense of humor. And having the burden of sail-aging lifted from my shoulders, I was in quite the mood to enjoy their little joke." END

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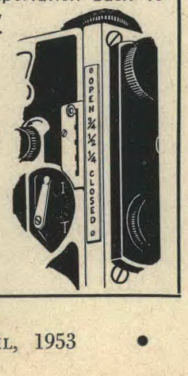

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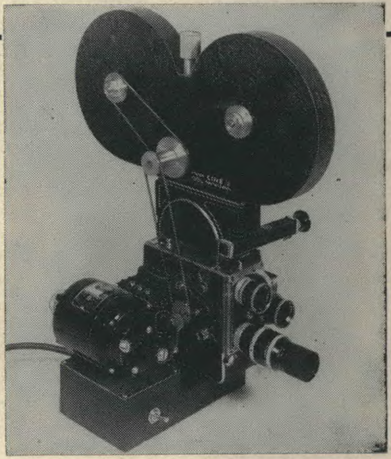

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THE MAGNASYNC RECORDER

(Continued from Page 165)

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2½ to 4½	0.01%
4½ to 7	0.015%
7 to 12	0.02%
12 to 22	0.03%
	Sprocket Hole Modulation
22 to 34	0.06%
	High Frequency "Flutter" Region
34 to 50	0.09%
50 to 80	0.12%
80 to 130	0.12%
130 to 200	0.10%

FIG. 4—Flutter-bridge tests made of the Model SW-602 produced logged results shown above; 16mm film was used at 36 fpm.

was to fill the soundman's last requirement. The finished product is a portable mechanical unit weighing 24 pounds in a case measuring 8″ x 11″ x 11″. The portable amplifier is housed in a matching case with a total weight of 15 pounds. In addition, each case is made with a generous compartment for cable storage. The overall weight of 39 pounds is thus divided into a balanced load for easy handling.

The sw-602 film transport is engineered around the dual-flywheel principle which was originated by the designers of the Magnasync*.

All components of the transport are integrated with a rugged master casting which is stressed to withstand a tremendous amount of shock. This construction has two important additional advantages, (1) Flywheel quills, sprocket pads and other important components are cast into the machine and will never lose their critical alingment, and (2) this design lends itself to quantity production with a considerable reduction in end product cost. The film handling mechanism is designed to instantly recess back into the case making the portable case no larger than the basic film transport mechanism. The reel arms extend to accommodate a full 1200 foot roll of recording film. Overdrive devices on both supply and take-up arms, combined with the unique film sprocket pad assembly, makes it possible for the operator to reverse the direction of film transport *instantly* without loosing the tight loop. The reset-type footage counter subtracts as well as adds.

The 16mm Magnasync equipment is made in standard models for either center tracking (double perforated film) or edge tracking (single perforated film); 17½mm equipment is available for either Academy Standard tracking (center of track 105 mills from inside edge of sprocket holes) or "Ryder" tracking (center between sprocket holes and edge of film).

Standard sw-602 (16mm), or sw-702 (17½mm) recorders are furnished with single-phase 60-cycle, 110-volt salient pole synchronous motors. For the producer who uses a camera with a multi-duty motor, the Magnasync is furnished with a 3-phase, 60-cycle 220-volt synchronous motor. With this arrangement the multi-duty camera motor supplies the power to drive the recorder motor in perfect synchronization. This method of "satellite" or "piggy-back" interlock has become increasingly popular with major studio sound men, as well as independent producers. An additional advantage with this "satellite" interlock rests in the fact that the Magnasync amplifier may be ordered for battery operation and the entire sound and camera system is fully battery operated. For the crew using 110-volt, 60-cycle synchronous motor to drive the camera, the standard Magnasync and camera are operated from regular line power, or for field work, the Magnasync portable power supply furnishes the inductive load power to drive the camera and recorder as well as the filtered power to operate the amplifier.

The Magnasync amplifier is completely self-contained in the one chasis. The Record Section includes a full 105 db of gain in the microphone stage through a 90 db shielded input transformer. In addition to the record gain control, a convenient HI-LOW level switch is provided to take care of wide variations in input level. The bias oscillator section is housed in independent, shielded containers mounted above the chassis. The playback section, with variable volume control, feeds into three alternative outputs: (1) a balanced 600 ohm, zero level line which may be fed into the input of an optical recorder or theatre sound system; (2) unbalanced output for earphone monitor, and (3) 4- to 8-ohm, 1-watt output for speaker monitor. A FILM-DIRECT switch gives the operator the option of listening to the direct amplifier monitor or the recorded signal from the film.

A well balanced dialogue equalization network is built into the record section and may be thrown IN or OUT at the option of the operator. This network develops a gradual roll-off on the bass end of the response curve to brighten dialogue recording. Both the record and playback levels are maintained with a 4½″, "A" scale V.U. meter.

The rack-mount version of the Magnasync is provided in several combinations. One example is illustrated in figure 3. This Model SW-602-RP is the rack-mount mechanism mounted in a portable case. Employing torque motors through clutch overdrives, this version can accommodate 1600-foot reels or 2000-foot rolls of film. In the *hold* position, the torque motor control switch energizes both motors to provide constant tension for supply and take-up. Other positions develop the *fast forward* and *fast reverse* torque.

The playback dummy (film phonograph) is identical with the SW-602-R except that it is equipped with play head only and is furnished with a rack-mount equalized playback preamplifier. Multiples of "R" series Magnasync recorders or dummies can be provided, interlocked and housed in enclosed racks for studio installation. The most popular of this series is the SW-602-D-3 which consists of three standard dummies with playback preamplifiers. With this equipment the producer can assemble his dialogue, music and sound effects on separate interlocked dummies and mix them onto a master track. (Use technique and the advantages of this method will be discussed in an article to follow.)

Magnasync engineers work on the principle that the producer needs "answers" as well as equipment. Continuous research and development is taking place to provide these answers. The objective is to help the motion picture producer make more and better films with a worthwhile increase in his margin of profit.

(*S.M.P.E. 63rd semi-annual convention May, 1948, Santa Monica, Calif.)

HOMEMADE GADGETS

(Continued from Page 173)

and perhaps even horizontally, with a minimum of effort. In the reflector unit illustrated the reflecting surface is 2′0″ x 3′0″. The mounting frame is made from light-weight strap metal with provisions for a vertical movement of the reflecting surface.

Dolly shots, or scenes in which the camera follows a moving subject, give a professional touch to cine photography if well planned and carefully executed. The small tripod camera dolly illustrated (Fig. 6) is in the form of an "A" shaped frame of light weight metal, measuring about two feet on either side and across the bottom. Beneath the frame and at each corner are mounted small casters one-inch in diameter. On top of the frame and at each corner are provisions for securing the tips of the legs of the camera tripod. With this arrangement the cameraman not only operates his camera but is able to push it around in the direction of his choosing. As this dolly is made with small casters it is useful only on a very smooth hard surface. Larger casters with rubber tires would improve the dolly's versatility and maneuverability.

The ideas outlined here as aids to better movie making are basic and as such are subject to modification and change. As they are adapted to individual needs, not only will the quality of your movies improve, but one's movie making will become more interesting.

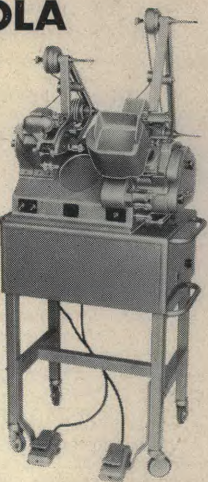
Kinevox Stereo Sound System

Len H. Roos, ASC, president of Kinevox, Inc., Burbank, demonstrated the company's new streophonic sound system last month to more than 200 studio executives and technicians at the Academy Award Theatre in Beverly Hills.

The demonstrated sound effects included that of planes, trains and a large symphony orchestra, the auditors in the darkened house getting a definite impression of movement from the sound of vehicles, etc. In filming, Roos' recorder puts three magnetic sound tracks through a single head on a tape simultaneously from three mikes placed at either side and in the middle of a scene. When played back, each track is fed into its corresponding speaker to give the stereophonic effect. In theatres, the three speakers are placed at the sides and the middle of the screen — at the rear. So effective was the demonstration that the audience broke into spontaneous applause.

Roos' sterophonic recording and playback equipment weighs less than 150 pounds, and costs about $3,500 plus microphones. The theatre equipment comprising three amplifiers, three speakers and a projection machine drive costs around $5,000.

The new sound system is adaptable to regular, three-dimension and wide-screen films, and is an essential part of the later, including such systems as CinemaScope and Cinerama. Stereophonic sound also promises to open up a new field of short subjects in stereophonic sound only for playing in theatres during intermissions, etc., according to Mr. Roos.



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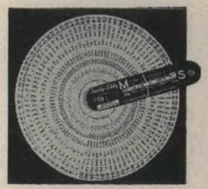

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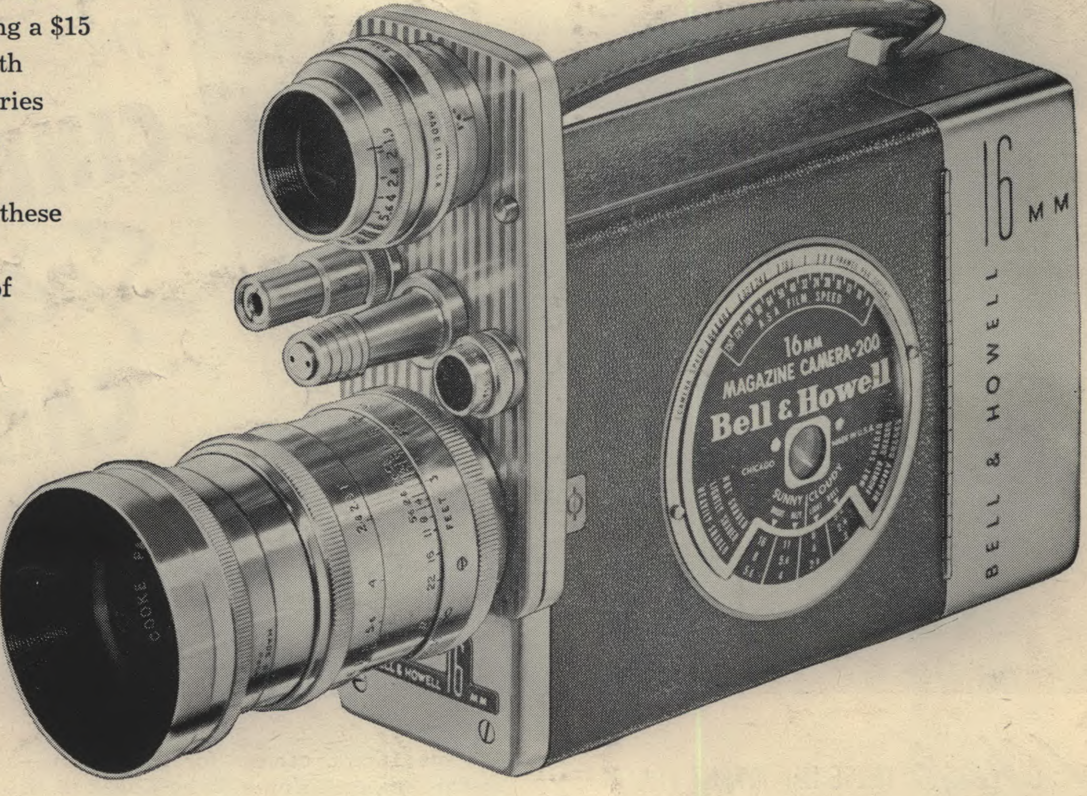

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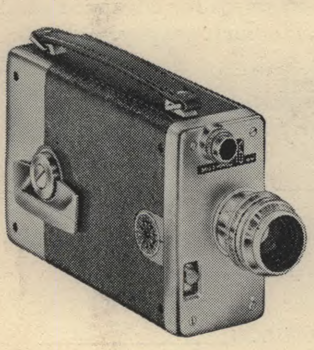

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